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USSR Report

TRANSPORTATION

No. 37



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AIR

AIRCRAFT INNOVATIONS DEVELOPED AT KHAR'KOV AVIATION INSTITUTE

Moscow IZVESTIYA in Russian 4 Nov 80 p 3

[Article by V. Nat and V. Pavlenko (Khar'kov): 'The Designer on the Student's Bench']

[Text] The Student Design Bureau of the Khar'kov Aviation Institute (SKB KhAI) recently developed something unusual for those who are conquering the expanses of Siberia and the Far East today. Since surface transport there is not easy, aviation is still "first violin." But airplanes are for freight and for long flights, and helicopters are not cheap. What is to be done for geologists and medical men?

The student aviators had many options for resolving this problem but they settled on a hydroplane. The KhAI-30 has a lightweight but powerful engine and new radio equipment. The craft is not difficult to drag onto the shore or to land manually on the water. It lifts two passengers and a light cargo load. An hour of flight costs 20 rubles.

This is not the first order that SKB KhAI has filled for Siberia and the Far East. Previously, at the request of the Novosibirsk Trust for Construction-Engineering Surveys, the students created an "airplane in a back pack" for aerial photography. A lawn or yard sufficed for it to take off. The mini-airplane was easily disassembled into components. Geodesists could carry it in a back pack.

The enlistment of Khar'kov aviation students in enterprising creativity has a long history. In the 1930's, a group of enthusiasts under the supervision of Professor I. Neman designed and built the KhAI-1, using a collapsible chassis for the first time. The airplane developed a speed of 324 km/hr—at that time a record for Europe. Later on, during the Great Patriotic War, high-speed armed reconnaissance and light bombardment aircraft created by the Khar'kov students proved their worth at the fronts.

The pioneering tradition of the students' inventiveness is still in progress at KhAI even today.

"Participation in the development of flying equipment," says Prorector for Scientific Work Professor A. Bayev, "develops in the future specialists a taste for creativity for originality of thought. Right now 400 young men and women are working in the bureau. They are being guided into doing research that later, as a rule, turns into important applied studies. And it happens that this work is being used

to support not only course projects and graduation projects but also in the defense of candidate dissertations.

Many of those who have passed through the SKB KhAI are working in the KB's [design bureaus] of general designers S. Il'yushin, A. Yakovlev, O. Antonov, A. Tupolev and others. Twenty-five of them have become Heroes of Socialist Labor, 45 of them winners of Lenin and State prizes. The title Laureate of the Republic's Komsomol Prize has been conferred on the SKB KhAI collective.

The aviators of the future are not confined to the walls of their vuz. For example, the idea of creating a supersonic jet "bolid" [fireball], the KhADI-9 [Khar'kov Highways Institute No 9], occurred to the students of the highways institute, and they at once supported it. Colleagues from the design bureaus of two other Khar'kov vuzes—for industrial arts and radio-electronics—joined them.

"The students coped with the work brilliantly: recently the KhADI-9 was sent abroad to a regular exposition," said V. Nikitin, Chief Designer of the Student Bureau for High-Speed Cars of KhADI and a car racer of world renown. "The 'Bolid' comprises 10 diploma projects for students of our institute alone, and we have lads from other vuzes who also have defended dissertations on it. It became the 18th vehicle created at the SKB KhADI."

An SKB also has been operating for almost 20 years at the radio-electronics institute. There have been various stages in its life, but conclusion of the first economic contract helped it to get to its feet. This was a contract with the oblast trade administration to develop the automated Mera complex. Then the SKB began to work on technical equipment for the institute's linguaphone center.

"Not very much time had passed," says chief of the SKB KhIRE [Student Design Bureau of the Khar'kov Institute of Radio-Electronics] A. Markaryan, "before total volume reached 200,000 rubles. From a set of precision navigation tie-ins for scientific-research ships that explore for oil in offshore areas of the seas and oceans for Yuzhmorego [Southern Marine Geology Institute] to the development of radio-electronics equipment for the Khar'kov Institute of General and Emergency Surgery—such is the spectrum of the student's design bureau."

There are now 30 SKB's in Khar'kov's vuzes. However, their status and financial situation have not been defined. Some of them are part of the vuz scientific-research sectors. Others are considered to be budgeted organizations.

This vagueness is caused by the currently existing model statute on student developmental, research, design and technical and economic bureaus of higher educational institutions. Adopted 12 years ago, it is obsolete and does not meet modern requirements.

The supervisors of Ukrainian vuz SKB's who spoke at a seminar in Khar'kov emphasized this thought. In their opinion, the time has come to adopt a new unified charter for SKB's. It should be juridically sound, contain precise instructions about SKB financing activity and the pay of its supervisors and staff workers, and offer stimuli for attracting highly qualified specialists to SKB management.

The prospects for developing student scientific creativity are great. It is important only to consider today's needs in good time.

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AIR

IMPROVEMENTS IN KA-26 HELICOPTER RECOMMENDED

Moscow VOZDUSHNYY TRANSPORT in Russian 11 Dec 80 p 2

[Article by G. Lyakhov, USSR distinguished pilot, deputy of the Lithuanian SSR Supreme Soviet and chief of the Lithuanian Republic Civil Aviation Production Association: "The General-Purpose Helicopter Should Become Even More General Purpose in Nature"]

[Text] "...raise the level of use and the operating reliability of technical means of transport...."

"...raise travel safety and provide for a reduction of the harmful effects of transport on the environment...."

(From "The Main Directions for Economic and Social Development of the USSR for 1981-1985 and During the Period up to 1990")

Questions raised in the draft of the Main Directions for the country's economy during the next decade pose the important question of rational use of equipment, and we, in considering this historic document, are determining the potential for each type of aeronautical equipment, particularly the potential for further effective use of helicopters in aviation chemical operations.

Ka-26 helicopters have been used in the republic's economy since 1972. On the whole, these helicopters have been rated positively by clients--the supervisors of agricultural-production and scientific organizations, public-health and nature-conservation institutions, the GAI [State Motor-Vehicle Inspectorate] and geologists. It must be said that demand for the helicopter is very great, and we are simply not in a position to fill all orders, despite the amount of work done on the Ka-26 and the growth to 15 percent in the total amount of the PANKh.

Such operations as the counting of wild animals, the campaign against poachers and many others are episodic in nature but are necessary to the state. Suffice it to say that in 4 months of last year alone, during flights above the water area of the Gulf of Finland, helicopter pilots Barinov and Maslovskiy observed about 50 boat violators who were deliberately polluting coastal waters and creating a threat to marine and coastal fauna. Fines for violations came to more than 800,000 rubles. In my opinion it is very timely that the draft of the Main Directions poses the question of strengthening responsibility for polluting the environment. In my view, the penalties should be stiffened. And by a penalty not from the state's pocket but from the pockets of irresponsible managers.

Fruit growers especially like the machine. Here is what V. Urba, Director of the Republic Fruit and Vegetable Growers' Trust of the Lithuanian SSR Ministry of Agriculture, writes in his testimonial: "In the fruit-growing sovkhoses of the republic's trust for fruit and vegetable growing, fertile production orchards are sprayed by helicopters three or four times annually, covering an area of about 2,000 hectares. The overall assessment of spraying quality is good. But it must be said that the quality of the fruits depends upon a precisely set time for spraying the orchards."

There are also difficulties in operating the Ka-26. The period of transitioning this equipment occurs with great strain within the association. There was damage to the equipment, which led to losses and idle time, and the serviceability of the helicopters was low.

An incorrect opinion has prevailed that the equipment for piloting the Ka-26 helicopter is very simple and that one can do anything with it. Nonobservance of restrictions and violations of the manual for flight operation have led to unfavorable consequences. The comparatively low engine power aggravated the consequences.

Piloting, in my view, was made difficult also by the unfortunate placement of the instrument panel, which covers the most important sector of vision. This tells especially during flights at minimum altitudes. The uncomfortable pilot's seat leads to early fatigue for the pilot.

Since last year we have begun to use widely the experience of the Moldavian RPO [republic production association] in transitioning pilots and in making flights with pairs of flight crews. In so doing, the more experienced pilot is named the senior one, and he makes the first flights, especially in difficult weather and when working over complicated land parcels.

Such deficiencies as lack of improved chemical equipment and loaders for particulate fertilizers, the need to bring the technical equipment to the operating site by motor-vehicle transport, and the impossibility of carrying out flights during strong precipitation also restrict the use of Ka-26 helicopters.

These and many other deficiencies urgently require the introduction into operation of a new helicopter that will retain all the advantages of the Ka-26 but will be more productive and more economical.

It is desirable, when developing such a helicopter, to specify equipment for first-aid and for the GAI. In the agricultural variant the problem of mechanized high-speed loading without turning off the engines should be solved.

The effective use of equipment, which the party's program document calls for, should be the norm in the life of each aviation specialist.

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RAILROAD

INAPPROPRIATE USE OF RAILROAD CARS

Moscow KHOZYAYSTVO I PRAVO in Russian No 10, Oct 80 pp 25-27

/Article by N. Zolotarev, legal counsel to the administration of the production-technological assembly trust Sevkavgidroenergostroy /North Caucasus Hydroelectric Power Construction Trust7, Cherkessk: "Where Are Our Railroad Cars?"7

/Text7 The common responsibility of the railroad transport organs, the shippers and recipients of cargo, is to strictly observe the interests of the socialist state and to do their utmost to limit transportation outlays and use rolling stock in a rational manner.

But this is what happens: the rationality of shipments and using railroad cars is sometimes understood differently by the railroad and the owners of the railcars. For example, last year the North Caucasus Railroad used the dumpcars which belong to our trust, Sevkavgidroenergostroy, to ship cargo from nearby quarries in that direction. From the point of view of the railroad this is rational use of rolling stock. We do not see it that way. First because the quarries where the dumpcars were taken are in the opposite direction from us. But mostly the problem, in our opinion, is that the regulation does not give the railroad the right to use the owner's railcars for shipping cargo even in an advantageous direction without his permission. This is clearly a violation of the owner's right to manage his own rolling stock.

It should be noted that serious steps have been taken to bring about the proper state of affairs in the relationships between the railroad and the owners of railcars. On 26 April 1979 the USSR Council of Ministers issued a decree "Concerning raising the material responsibility for the use and safekeeping of railroad rolling stock". Among the measures outlined in the decree were changes to article 163 of the regulation, which now states that the arbitrary seizure by the railroad of departmental railcars will result in a fine of 50 rubles per car per day. Now the railroad must bear a dual responsibility for the arbitrary loading of departmental railcars. First, the fine, called for by the new version of article 163, and second, according to article 153, another fine for default in delivering empty cars as cargo on wheels to the loading point.

It would seem that everything is fine. Particularly since in addition to this on the basis of Rate Guide No. 1 the railcar owner receives 25 percent of the payment that the railroad receives for shipping the cargo in the direction that it is going. But all of these penalties cannot compensate for the losses connected with the lack of their own railcars. And another point is that the railroad is not stopped by these outlays, when they arbitrarily take other peoples' railcars.

There are no questions in regard to the fines; the 25 percent compensation is very problematic. Quite recently workers at the Cherkessk station without any agreements used our dumpcar circuit working block consisting of 40 railcars to ship the cargo of another enterprise. Everything was drawn up in accordance with the rules - a shipping receipt for acceptance of the cargo was given to the shipper, the receipt stub remained at the point of origin, and the way bill and the railroad statement and the cargo reached their destination. Only the railcar owner did not receive any documents at all. On what basis can the owner demand 25 percent of the shipping cost?

And here is another reasonable question. Why can the railcar owner count only on such compensation when using railcars for shipping cargo? After all the Rate Guide No. 1 specifies a 25 percent discount for those who ship in their own railcars. And this - pay attention! - is not just for cargo heading in the same direction of the railcar owner itself. Let us discuss this further. The railroad uses other organizations' railcars out of necessity. Wouldn't it make sense for the railroad to rent the cars from the owner? And if so, then estimates must be made to determine the rates for renting. Logical? Unfortunately the logic is to no avail: the Rate Guide No. 1 (paragraph 26, point 3) has established such rates only for renting railcars from the park of the USSR Ministry of the Railways. We think that the time has come to extend this norm to the departmental rolling stock as well.

However, let us now return to the present. Let us assume that these fines, penalties and 25 percent payments are received. I will repeat: these incomes in no way cover the actual outlays. Here are just a few of the outlays: salary for the workers who accompany the circuit working block, outlays for railcar maintenance, amortization deductions, and transferring funds of the railroad for returning the circuit working blocks to their loading point. One must also take into account that it takes two or three days to load the circuit working block with cargo for the return trip; and it takes just as long to unload in the best situation - when the recipient has a compressor to empty the dumpcar. Thus the railcar owner is deprived of the opportunity to use his cars for four to five days to fulfill his delivery plan, which frequently results in sanctions for the late fulfillment of contract obligations.

The cited facts show that the railroad must look for other ways to work with the owners of rolling stock. One such way is to make contracts which will specify both the procedure for using the railcars and the rental fee and a reduction in railcar idle time. Naturally,

many other ways must be found and put into effect in addition to this suggestion. This is made necessary by the fact that today the irrational use of departmental rolling stock is frequently permitted. It is true that we must recognize that this is not just the fault of the railroad.

Let us take another very common phenomenon: departmental railcars are idle on sidings of enterprises for five to ten days at a time. What are the reasons? The enterprise managers did not issue timely instructions concerning the further use of their railcars. The railroad did not permit the railcars to enter the common use track.

It is generally known that departmental rolling stock is tied up for loading operations quite a bit longer than called for by common norms. Here the reasons are superficial - no one was made responsible for the idle time and far from all enterprises have organized the 24-hour processing of railcars. Entire trains of departmental railcars are idled on the sidings of both the owners and the recipients of the cargo; and such flagrant irresponsibility remains unpunished. Which brings us to the conclusion that the time has come to establish responsibility for the delay of departmental railcars. Let the guilty parties pay! Let us assume that such responsibility can be established by adding a special section to the Special Conditions for the delivery of certain kinds of product. This was done for chemical and rubber products. We understand that this will require additions or changes in the appropriate articles of the charter of the railroads.

Probably, we should touch upon the problems connected with the operation of departmental rolling stock. First a few words about dumpcars. These railcar-dumptrucks are the most advantageous and convenient form of freight transport for construction organizations. This is why dumpcars have been placed under their operational control. But the problem is that the legal position of the turnover of such railcars on all railroad lines is not clearly defined. For example, the rules for freight shipments or the Special Conditions for the delivery of construction materials do not specify how dumpcars reach loading points and how they are returned. In general one must point out that the transportation legislation has given too little attention to this widely-used and very important method of shipping. Just one example. While the rules establish the procedure and conditions for shipping freight on the open rolling stock of the Ministry of the Railways' park, they say nothing about the same cars which belong to others. A great deal needs to be done to eliminate such oversights. For example, let us establish specific time periods within which the railroad is required to accept empty or loaded dumpcar circuit working blocks /vertushka/ from the owner, shipper and freight recipient for shipment. The problem is that in practice the vertushkas and shipping documents are not accepted for several days at a time. There is more. It is necessary to stipulate a procedure and time periods for returning the paper work of the departmental dumpcar vertushkas or the time periods for their release by the cargo recipients to the station and to introduce a specific form for shipping documents.

There is no doubt but that departmental railcars which are to be used on common use track must satisfy established requirements. It is to ensure traffic safety that such cars are constantly watched by the railroad workers; and when the cars are standing they are subjected to a technical inspection. Periodically the railcars are sent in for planned repair and maintenance. There are also rules governing the depot repair of freight cars; the rules spell out the responsibility of the depots to also repair departmental railcars. At first glance everything appears clear: pay your money, send your railcars to the depot and after a certain amount of time you get them back. But this is not always what happens. The railcar depot at the Kavkazskaya Station, resorting to various excuses, does not, for example, repair the mechanisms for emptying dumpcars, even though they are registered to the North Caucasus Railroad and the rules obligate the depot to make repairs on these mechanisms. What is to be done? The owner is forced to appeal to other railroads, which may or may not agree to work on "other peoples'" railcars in excess of their repair plan. This situation persistently requires the railroad to which the dumpcars are registered to unconditionally specify a place for the cars to be repaired depending upon what kind of car it is and the car's complexity. In any case the owner must be freed from such involved and very often futile concerns.

As the freight flow is increasing on the entire network and the work of the railroads is under ever increasing pressure, it is necessary to maintain the strictest control over the rational use of departmental transport. Both the railroad and the owners of the rolling stock must be made more responsible .

It is possible that these ideas do not exhaust all aspects of the problem. Still, I am convinced that both the railroad and the owners of rolling stock must seek to eliminate everything that hinders the normal and efficient common work.

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GENERAL WORK RESULTS OF MARITIME SHIPPING IN 1980 REVIEWED

Moscow VODNYY TRANSPORT in Russian 17 Jan 81 p 1

[Article: "Set a Fast Work Rhythm from the First Days of the Year!"]

[Excerpts] The workers of maritime transportation achieved significant results last year which had a decisive impact on fulfillment of the assignment of the 10th Five-Year Plan. Operational report figures indicate that the 1980 plan for cargo shipment in coastwise shipping for the ministry as a whole was 101.3 percent fulfilled, while for overseas shipping it was 102.9 percent, and for conveyance of passengers in all types of sailing it was 101.9 percent. Thus, the ministry of the Maritime Fleet not only fulfilled, but also overfulfilled its socialist obligations.

This was a result of organizational-technical steps aimed at raising the efficiency and quality of work, the considerable party-political and ideological-indoctrination work done on the ships, in ports, shipyards, and other maritime transportation enterprises and organizations, and the broad socialist competition that developed in honor of the 26th party congress.

Work in the fourth quarter of the last year was done under the difficult navigating conditions of the fall-winter period. Most of the steamship lines did well with their assignments. But the Latvian and Far Eastern steamship lines did not fulfill their plans for the final quarter for overseas shipping and the Kamchatka Steamship Line failed on two indicators, coastwise and overseas shipping. For the Latvian and Kamchatka lines this one-quarter lag did not result in failure to fulfill the plan for the year, but in the case of the Far Eastern Steamship Line it aggravated the situation and did affect the working results of Dal'flot GKHO [possibly Far Eastern State Shipping Association]. Neither the steamship line nor the association fulfilled its 1980 plan for overseas shipping.

The steamship lines of the Northwestern basin fulfilled their key assignments for delivery of equipment, materials, and other cargo to the geological exploration parties on the Yamal peninsula last year. They maintained year-round navigation in the Dudinka sector. All the steamship lines that delivered cargo to the Arctic and other remote regions of the country performed increased shipping volumes in 1980.

The ministry as a whole overfulfilled its annual plans for coastwise delivery of ore, ferrous metals, and grain cargoes. At the same time, chiefly because the goods were not presented for shipment, the annual plans for coastwise shipment of coal, fertilizer, building materials, and various other cargoes were not fulfilled. More could still be done to strengthen business contacts between the steamship lines and the planning agencies and customers. For example, throughout 1980 there were substantial discrepancies in the Caspian basin between the requests and plans for petroleum shipping and the petroleum actually presented for shipment. In a number of cases this led to ship downtime and caused the Caspian Steamship Line to fail to fulfill assignments. Shipping requests for the year were greater than the cargo presented for shipment in several cases: coal for the Azov Steamship Line; fertilizer for the Estonian and Kamchatka steamship lines; and chemicals for the Northern and Sakhalin lines. It appears to be necessary to step up work on the problems of mutual material accountability between customers and transportation departments for failure to fulfill obligations to present cargoes envisioned by the plan and to ship them.

A significant amount of cargo was delivered in 1980 between the ports of the USSR and the Republic of Cuba. This was done by ships of the Baltic, Black Sea, Novorossiysk, and several other steamship lines. Ships of the Far Eastern, Primorskiy, and Black Sea lines delivered hundreds of thousands of tons of cargo to Vietnam and Kampuchea. Large volumes of shipping were performed between the ports of Izmail, Reni, and the ports of the countries on the Danube. Foreign trade shipping continued to develop between the USSR and dozens of developing nations in Asia, Africa, and Latin America and with many industrially developed capitalist countries. The volume of transportation services exported grows each year. In 1980 this work was done particularly well, with the assistance of V/O Sovfrakht [All-Union Association for Chartering Foreign Tonnage], by the Novorossiysk and Latvian steamship lines. The Caspian and Sakhalin steamship lines did a good job with ferry crossings, and the international sea-going railroad ferry between the ports of Il'ichevsk and Varna performed well.

Container and stack shipping continues to grow in all branches of the sector. About 6 million tons of cargo was delivered in containers last year and almost 11 million tons in stacks. But the proportion of these shipments is still inadequate, and the turnaround of containers can and must be significantly accelerated.

Sophistication of service to passengers improved in 1980 and almost 1 million more passengers were carried than envisioned by the plan. The total number of passengers conveyed in all branches of the sector was 51.6 million; ships of the Black Sea line carried 25.9 million of them, while the Far Eastern line had 9 million and the Novorossiysk line carried 6.1 million.

The ports had a heavy workload last year. The plan of loading and unloading work was 102.9 percent fulfilled for the ministry as a whole, which included 104.4 percent for the ports of Sevzapflot [Northwestern Fleet] CKhO, 103.2 percent for Yuzhflot [Southern Fleet], and 100.5 percent for Dal'flot [Far Eastern Fleet]. The plans for the fourth quarter of 1980 for loading and unloading work were fulfilled by 104.5 percent. A large majority of the ports performed both their regular plans and the socialist obligations

assumed for 1980. The ports of Vostochnyy, Belgorod-Dnestrovskiy, and Ust'-Kamchatskiy did not meet their assignments last year.

Continued development of the work of transportation centers on mutually coordinated, continuous plans was very important in promoting successful fulfillment of the annual plans by the ports. All these things enabled the ports to increase the volume of loading and unloading work in 1980 by 3.4 percent over 1979.

Nonetheless, many ships last year were left in our ports for long periods of time awaiting processing or loading and unloading, which led to the piling up of significant amounts of important cargo and lowered the efficiency and quality of fleet use. This situation developed in Odessa, Il'ichevsk, Novorossiysk, Leningrad, Tallin, Riga, Vladivostok, Nakhodka, the ports of the Georgian Steamship Line, and elsewhere.

Another factor which had a negative effect on the final results of ship and railroad car processing was the shortage of labor, compared to ratified labor plans, at many ports.

Two socialist obligations which numerous steamship lines did not fulfill were the obligation to accelerate the processing of ships and railroad cars and the obligation to increase the working period of the fleet by reducing ship downtime for repair.

**Fulfillment of Shipping Plans in Coastwise and Overseas
Shipping for the Fourth Quarter of 1980 and 1980 as a
Whole by Steamship Lines and GKHO's (in percentages)**

Steamship Lines	4th Quarter		1980	
	Coast- wise	Over- seas	Coast- wise	Over- seas
Northern	128.2	100.3	101.6	101.4
Murmansk	100.3	104.7	101.6	107.4
Baltic	-	100.9	106.0	101.3
Estonian	109.4	103.9	102.7	104.2
Latvian	123.4	91.3	103.3	100.2
Lithuanian	-	103.6	-	102.6
Total, Sevzapflot GKHO	108.3	99.1	102.1	101.8
Danube	109.6	103.2	100.9	101.7
Azov	108.0	107.5	100.9	103.5
Black Sea	131.1	104.7	109.9	102.4
Novorossiysk	109.1	100.7	105.6	103.3
Georgian	103.5	100.9	101.9	107.6
Caspian	103.6	109.7	101.0	122.5
Total, Yuzhflot GKHO	105.5	103.4	101.4	104.1

[table continued, next page]

Steamship Lines	4th Quarter		1980	
	Coast- wise	Over- seas	Coast- wise	Over- seas
Far Eastern	105.2	82.5	101.5	93.0
Kamchatka	95.3	80.2	100.7	100.1
Sakhalin	103.5	102.1	100.3	103.6
Primorskoye	100.1	108.3	101.5	103.9
Total, Dal'flot GKHO	101.9	87.4	101.0	95.6
Total for Ministry of Maritime Fleet	104.8	99.8	101.3	102.3

The Central Asian Steamship Line fulfilled its fourth-quarter plan for tons by 103.5 percent and for ton-miles by 132.3 percent; the corresponding figures for the 1980 plan were 105.6 and 108.7 percent.

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OCEAN AND RIVER

RIVER FLEET: FULFILLMENT OF 1980 PLAN, GOALS FOR 1981

Moscow RECHNOY TRANSPORT in Russian No 1, 1981 pp 1-3

[Article by First Deputy Minister A. Vvedenskiy of the River Fleet RSFSR]

[Excerpts] During the 10th Five-Year Plan, RSFSR river fleet workers delivered more than 1 billion tons of mineral-construction cargoes for industrial construction, for agriculture in particular and, above all, for the nation's most important construction projects. Work collectives of the Northwestern and West-Siberian steamship lines, the crews of over 3,000 vessels and dozens of industrial enterprises and ports coped successfully with fulfillment of the five-year plan.

In 1980, despite complex difficulties connected with a considerable delay in the opening of the navigation season, with unusually large plan volumes of timber and other cargoes, plus the blocking of the Volga River in the area where the Cheboksary GES is being built, over 30 million tons of cargo was delivered, 6.5 percent more than in 1979. Assignments connected with the delivery of cargo to the regions of the Far North and the areas of West Siberia where oil is being extracted were fulfilled. The hauling of all of the agricultural products which our nation produced was fully carried out.

Thanks to the constant concern of the Communist Party and the Soviet Government, there was considerable strengthening, during the 10th Five-Year Plan, of our river transport material-technical base. Over that period, basic funds were increased by 30.8 percent. Wage levels rose and the housing and living conditions of river fleet workers improved. During the period from 1975 through 1980 alone, more than 1.3 million square meters of housing were built and over 50,000 river fleet worker families improved their housing conditions. A number of new clubs, schools, pre-school institutions for children and hospitals were also constructed; at the same time, the trade material base received further expansion.

Volume of cargoes hauled over that five-year plan period increased by more than 435 million tons, or 23.8 percent, while the volume of freight turnover increased by 170 billion ton-kilometers, or 18.3 percent, basically as the result of an increase in dry-cargo haulage requiring the great expenditure of labor. Expansion of cargo hauling in the river basins of Siberia and the Far East proceeded at a very rapid pace. The increase in the volume of cargo hauled by steamship lines of Eastern river basins was 26.2 percent while the increase in freight turnover was 21.8 percent over the five-year plan period. To just the oil-extraction regions of West Siberia alone over the period between 1975 and 1980 over 67 million tons were hauled, 1.6 times more than were delivered during the 9th Five-Year Plan period.

Those achievements might even have been greater if a more decisive effort had been made to eliminate work shortcomings within steamship lines, river basin route directorates, canal directorates, industrial enterprises and ports and aboard every vessel. Many work collectives of steamship lines, enterprises and ships failed to cope with plan assignments as to individual indicators; as a result, all of the ever-increasing requirements of the national economy as to the hauling of cargo are far from being fulfilled in full measure, particularly the delivery of cargo to the very rapidly developing fuel and power complex of West Siberia.

The CPSU Central Committee and the USSR Council of Ministers, having attached particular significance to river transport in serving the needs of the national economy, have adopted a special decree entitled "On Measures for the Expansion of River Transport Between 1981 and 1985." The basic assignments called for in that decree are embodied in the plan for river transport economic and social development in 1981--the takeoff year of the 11th Five-Year plan.

Facing us in 1981 is the task of hauling 505 million tons of national economic cargo, with a freight turnover of 250.2 billion ton-kilometers, a figure which is 25 million tons higher (by 5.1 percent) in volume and 23 billion ton-kilometers higher (by 10.2 percent) in freight turnover than the level which we achieved in 1980.

Volume of dry cargo to be hauled will increase by 5.9 percent while the volume of freight turnover will increase by 10.9 percent. What is being planned is a significant increase in the haulage of coal, ship-borne timber, industrial raw material and molding materials. Containerized cargo hauling will reach the level of 2.29 million tons while 9.65 million tons of cargo is to be shipped in packets.

The hauling of cargo destined for abroad is to receive further expansion in 1981 and is to increase by 8 percent as against 1980. There will be an increase in cargo carried on small rivers, above all in cargo hauled to Siberia and to the Far East. In the regions of West Siberia, Krasnoyarskiy Kray and the Yakutskaya ASSR, the hauling of cargoes on tributaries will increase by 40.5 percent and will reach the level of over 2.3 million tons.

There is to be an increase in cargo hauled by direct-mixed railroad-water routes; to be increased by 30.9 percent, the volume of such haulage will reach 61 million tons. What we need to do in the future is to shift 1.5 million tons of cargo now being hauled by railroad over to water transport.

Work collectives of Eastern river basin steamship lines have in front of them a particularly responsible task. Their cargo haulage is to increase by 6.4 percent while their freight turnover is to increase by 10.4 percent (the corresponding figures for dry cargo to be hauled are 7.4 and 12 percent), all of which is evidence of very rapid tempos of expansion as compared with the whole for our branch of industry.

Volume of cargo to be hauled to the oil and gas extraction regions of West Siberia is to reach 17.4 million tons (as against 16.4 million tons in 1980); through the port of Osetrovo, it will be necessary to deliver no less than 3.5 million tons of cargo to the Yakutskaya ASSR and the northern regions of Irkutskaya Oblast.

Loading-unloading operations as a whole for the ministry will increase by 4.2 percent and will reach the figure of 742 million tons. There is to be a 3 percent increase in the rate of ship handling in river ports and at piers belonging to our customers. The level of complex mechanization of freight-handling operations involving packaged and individual pieces of cargo (which involves a great deal of labor) is to reach 91 percent.

Over 104 million passengers are to be hauled in 1981. There is much which remains to be done as to increasing our skills and capabilities in serving passengers aboard ship and at our stations and piers.

One of the main reserves for increasing haulage volume is the improved operation of the transport means available to us. The plan for 1981 calls for an increased gross volume of production utilization of all our ship types of 1.3 percent in comparison with the plan for 1980.

An increase in cargo handling labor productivity of 7.4 percent as compared with 1980 is being called for, with the greatest increase in such productivity to be achieved by the United Volga, Kamsk, Volga-Don, Northwest, Pechora, Yenisey, East-Siberian, Amur and Lena steamship associations.

In conjunction with this plan, what we must do is to decrease the cost of haulage by 3.5 percent as compared with 1980 and to increase the profitability of our basic operational activity by 13.8 percent.

The most important of our means for increasing the effectiveness of operations is the further expansion and introduction of advanced labor methods into all echelons of our transport process. To be developed further are such proven methods of fleet operation as the conveying of mass cargo in heavy movable freight quantities with the aid of lifting devices with a capacity of 1,472 square tons. Freight turnover achieved through this method will reach 23 billion ton-kilometers, i.e., will increase by 4.5 percent in comparison with 1980. 58.3 billion ton-kilometers in freight turnover is to be achieved by means of the method of group work done by ship's crews on regular freight lines through the improvement of traffic movement norms, which will facilitate haulage smoothness and high work productivity. Freight turnover to be produced by forced labor-compulsory work crews is to reach 0.6 billion ton-kilometers, which will make the increase for both methods 10.2 and 8.4 percent respectively as compared with 1980.

Work will be continued towards the further improvement and development of the work methods used by Leningrad transport workers. By dint of the organization of freight delivery methods in accordance with an uninterrupted plan schedule in 1981, we plan to reduce the gross time for ship processing by 1 million ton days.

The introduction of a series of new measures is planned, aimed at improving and increasing the effectiveness of the transport process.

The first of these involves the hauling of export-import cargoes in mixed river-sea transport: on regular lines, the line form of navigation is to be introduced, which will allow us to reduce the average turnaround of ships engaged in foreign trade by 5 percent. We plan to transport 1 million tons of cargo on such routes. To be

included in the plan for the first time is the hauling of apatite ore concentrate from the Kola Peninsula through the port of Medvezh'yegorsk destined for the Cherepovets Chemical Plant. Also, such concentrates are to be transferred to railroad cars in the port of Astrakhan' for the Sumgait Chemical Combine.

About 200,000 tons of coking coal from the Pechora area is to be transported by railroad and water to the coke-chemical plants of the Ukraine, with transshipment in Yaroslavl and in ports of the Volga-don Steamship Line.

A comprehensive program has been worked out and approved for river transport management on the basis of the "Rechflot" Automated Control System (ASU) through 1985, this through the utilization of up-to-date computer equipment. The program calls for the tying together of work connected with improving management organizational structure, introduction of modern methods of administrative-economic activity, regulation of the normative base, preparation of the necessary productive areas for ASU technical bases within the ministry, steamship lines and ports, plus the teaching of effective management methods to administrative-managerial personnel and engineer-technical workers. Planned along with this is the initial working out of an entire complex of tasks relating to the operational management of river fleet and port work both on the steamship line level ("Dispatcher" ASU) and the port level ("Transport Junction" ASU).

A great deal of work will have to be carried out in 1981 as to the mastering of secondary ASU sections on the ministry level and at such main enterprises as the Volga Unified Steamship Line and Moscow's Southern Port, as well as the Volga Tanker Steamship Line (22 subsystems, 135 tasks).

Following the introduction of a unified computer system at both the Northwest and White Sea-Onega steamship lines, we plan to unite all of the computer centers of the Central and Northwest basins into a single network of computer centers, which will raise the level and quality of fleet and port work management. We will save about 3.4 million rubles in 1981 through the introduction of computer equipment.

Realization of the above enumerated and other measures as to the introduction of progressive technology and production mechanization and automation will yield a savings of over 20 million rubles throughout all types of our activity.

The CPSU Central Committee and the USSR Council of Ministers attach a great deal of significance to questions involving the further improvement of economic plan management and to expansion of democratic principles in the management of production plus the raising of creative initiative on the part of work collectives. This is attested to by the decree adopted in 1979 entitled "On Improving Planning and Strengthening the Influence of the Economic Mechanism to Increase Production Effectiveness and Work Quality." A great deal of organizational and preparatory work has been accomplished during the course of fulfillment of this decree. Using typical methodology and regulations as a basis, branch methodological documents have been worked out and coordinated. These include Certifications for steamship line lines (production associations) and industrial enterprises. To be introduced in 1981 is a system whereby the Ministry of the River Fleet's contract construction organizations will bill customers for commercial construction production work. Six industrial enterprises of the Moscow Steamship Line will convert to an evaluation indicator for normative production. The work experience of these enterprises will

enable us to make the necessary corrections to our branch of industry's "Temporary Instructions on Planning and Evaluating the Industrial Activity of the Ministry of the River Fleet as to Normative Production Indicators," with the object of converting all of the ministry's industrial activity over to this new indicator as of 1 January 1982.

The directors of steamship lines, basin route directorates, canal directorates, the "Teplokhod" Plant, scientific research and educational institutes, design-construction and other organizations must be persistent in working out measures for transferring our entire branch of industry to these new evaluation indicators.

The successful work of our branch of industry's operational subdivisions depends, to a great degree, upon the coordinated activity of river route workers and hydraulic engineering structures. It is the job of such structures to provide reliable river route operating conditions which will allow us to deliver cargo to our customers on time and without loss.

As in the past, it is necessary to devote particular attention to the expansion of water routes, particularly in Siberia, the Far North and the Far East, and to utilize for this purpose the material and financial resources of all ministries and governmental departments which serve those areas.

Our plans call for the further improvement of navigation conditions through the carrying out of dredging operations in the Ob'-Irtysk basins, including work on the Pur, Nadya, Agan, Vasyugan, Parabel' and other rivers.

River transport's greatest reserves, and one of its most important tasks, is the extension of the navigation period on our internal waterways by forcing the opening of these rivers with the aid of powerful icebreakers and transport ships with icebreaker attachments. The resolution of a number of technical problems connected with facilitating the work of structures involving ship passage, of loading-unloading equipment in ports and aboard transport vessels operating under below zero weather conditions will allow us to increase the amount of freight hauled during the period of extended navigation in 1981 to 16 million tons, 5.6 percent more than in 1980.

Our branch's industry is to be developed further. Plans call for the volume of industrial production to increase by 3.4 percent as compared with 1980, with the output of products to be sold increasing by 3.3 percent as against the plan for 1980.

There is to be a 19.5 percent increase, as against 1980, in our plan for the building of ships: an 18.2 percent increase in dry-cargo diesel ships, 10.9 percent increase in tankers, and 10.2 percent increase in not-self propelled tonnage. Construction of small-tonnage barges and tugs is to be continued, this in order to meet more fully our need for the transport of cargo on our small rivers.

We are planning for the building of such ships as a shallow-water tug (Project No. R162) at the Pavlovskiy Yards of the Volga-Don Steamship Line, dry-cargo diesel motor ship (Project No. 912V) at the Tyumen' Yards of the Irtysk River Line, dry-cargo ship (Project No. R156) of 9,000-ton capacity at the Yards imeni Third International under the Volga Tanker Line, plus a series of other ships. In 1981, we

will embark upon the construction of such new ships as "O" Class tankers with a cargo capacity of 800 to 1,000 tons, dry-cargo barges (Project No. 81060) with a cargo capacity of 3900 tons, and catamaran-hulled agitation-propaganda vessels (Project No. R132). There is to be a considerable increase in the number of auxiliary, technical and service vessels to be built.

Expenditures per 1 ruble of goods produced is to be reduced by 3 percent. There will be a 3 percent increase in our industrial labor productivity. The average earnings of our workers will increase to the level of 170 rubles per month. There will be a 7 percent increase in our industrial profits.

Capital investment to be made in 1981 for the expansion of river transport will increase by 50 million rubles in comparison with 1980. To be completed in 1981 is the construction, expansion and reconstruction of the ports of Kotlas (the "Novaya Vetka" area), Nizhnevartovsk, Nizhneyansk, Svetlogorsk, the third section of the White Sea-Baltic Canal, the Osetrovo Maintenance and Service Base, a slip for the Moryakovskiy Yards, a hull-welding shop for the Yards imeni Butyakov, a ship-repair shop for the Yakutsk Technical Sector, a river-boat passenger station in Barnaul, a vocational training school in Moryakovka, plus a number of other installations of production significance. We will begin construction of the fourth section of the port of Osetrovo, of a maintenance and service base for Alekseyevka, and of a GPTU (possible Main Loading-Transport Administration) in Irkutsk. Capital investment funds have already been set aside for construction of the port of Novgorod, of shops for the Samus' yards, of a ship-repair shop at the Tyumen' Yards, of passenger piers in Petrozavodsk, of public service quarters at the Neva and Novosibirsk yards, of the ports of Leningrad (Vasileostrovskiy Rayon) and Blagoveshchensk, and of the Aksay Fleet Maintenance and Service Base. Just as in past years of the 10th Five-Year Plan, considerable sums of money will be allocated in 1981 for social-cultural expansion. What we plan to do is to complete construction of fleet supply bases in Irkutsk and Krasnoyarsk, a dining room complex in Podtesovo, a trade center in Perm', and 1,510-units of pre-school institutions for children plus schools capable of holding 320 pupils at the Sovkhoz imeni Galaktionov. Construction work is to be continued on a concert hall and restaurant at the river fleet passenger station in Volgograd, schools for the "Pamyat' Parizhskoy Kommuny" and the Neva shipyards, a preschool institution for children at the Arkhangel'sk Yards and polyclinics in Chkalovsk and hospitals in the settlement of Zhatay. Construction will begin of 1,060-unit pre-school institutions, of schools in the settlement of Zyryanka and of a number of other installations. About 180,000 square meters of housing is to be built. Realization of the construction indicated will facilitate the further improvement of river transport workers' living conditions and of cultural-communal services to be provided them.

River fleet workers of the Russian Federation, on the basis of a broadly-expanded program of socialist competition, will direct their efforts towards a full-scale improvement in serving the national economy and our people in the hauling of cargo and passengers, towards strengthening economy of operation, towards increasing work effectiveness and quality, and towards the strengthening of labor discipline.

Work collectives of the Northwest and West Siberian steamship lines of the Volga River Basin Route Directorate, of the ports of Moscow South and of Omsk, of the Ship Repair Yards imeni Lenin, of the vessels "Sovetskiy Soyuz," "Volga-Don 237," OT 2018, and "Kapitan Manaseyev," of the complex port worker brigades at the ports of Tostov and Krasnoyarsk (brigades led by comrades Zablotskiy and Fedulov), of

the brigade of lathe operators at the "Teplokhod" Plant, and of the ship-assembly workers at the Irtysh Ship Repair Yards (brigades led by comrades Lavin and Perchikov) have emerged as the initiators of competitions to mark the forthcoming 26th Party Congress with the honor it deserves and for fulfillment of the 1981 plan ahead of schedule. Their initiative, which was fully supported at a joint meeting of the Collegium of the RSFSR Ministry of the River Fleet and of the Presidium of the Central Committee of the Trade Union of Maritime and River Fleet Workers has received the heartfelt support of all of our river basins.

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OCEAN AND RIVER

VOLGA PETROLEUM TANKER LINE NEEDS BETTER PLANNING SYSTEM

Moscow VODNYI TRANSPORT in Russian 17 Jan 81 p 2

[Article by V. Permyakov, chief of the Volga Tanker Steamship Line: "Indicators for the Sake of Indicators"]

[Text] In the article below we discuss the draft document "Basic Directions of Economic and Social Development of the USSR for 1981-1985 and the period until 1990" prepared by the CPSU Central Committee for the 26th party congress.

The river workers of the Volga Tanker Steamship Line are continuing to study and discuss the document "Basic Directions" with great attention and interest. It is correctly observed in the document that our successes would have been greater if we had taken fuller advantage of the strengths of the planned economy. This proposition can be illustrated by the working experience of our collective.

Let us look at the third quarter of last year. Petroleum shipping then was very intensive. Not a day would pass without the steamship line receiving angry telegrams from oblast administrations of the RSFSR Goskonnefteprodukt [State Committee for Petroleum Products] demanding that ships be sent. Inadequate shipping of fuel and lubricants from Ufa, Perm', Gor'kiy, Kuybyshev, Saratov, and Yaroslavl' upset the work at plants and mining sites.

It is true that the links of the unified production chain, extraction — processing — transportation, sometimes do not withstand the pressure and break down. The situation in the Volga-Kama basin in recent years has developed in such a way that the steamship line is practically incapable of meeting the growing demands of the national economy for shipment of petroleum products.

I will not deny that we have some reserves for raising the carrying capacity of our ships. Above all these are improving the quality of fleet repair and comprehensive servicing, raising labor productivity in loading and unloading, and improving dispatching control. Nonetheless, the capabilities of the steamship line are not unlimited.

I believe that the principal cause of our failures is an outdated planning system. The present system is based on drafts worked out by TsNIIIEVT [Central Scientific Research Institute of the Economics and Operations of Water Transportation]. But these drafts are done without considering the concrete situation. Their starting points are charts of cargo flows that have developed over many years and the principle of an annual increase in the plan. Therefore, heated arguments occur between the institute and the steamship line over each new plan. In this battle the institute almost always wins; it is usually supported by the Ministry of the River Fleet.

But real life is more complex than old charts. The economic situation changes every year, and this must be taken into account. Here are just a few specific examples. The forecast shipment of 5.5 million tons of mazut oil from Makhachkala did not come about. The customers in fact requested barely one-third of the calculated amount. The multipurpose line from Aktau to Volgograd had to be shut down because of a lack of petroleum resources on the Mangyshlak peninsula. The southern element of the petroleum conveyor lost its decisive significance in fact. During the last five-year plan the cargo flows were shifted to the northwestern segment of the Volga-Kama basin.

The steamship line was forced to literally beg its customers, Goskomnefteprodukt and the Ministry of Petroleum Refining and Petrochemical Industry, to receive permission to carry mazut oil from Makhachkala and Astrakhan' not to Oktyabr'sk, but directly to Yaroslavl'. (We desperately need these planned ton-kilometers. Without them the collective receives neither honor nor bonuses.) Petroleum-carrying ships often must wait long times for tanks into which the mazut oil can be loaded. The steamship line has the formal right to impose sanctions on Goskomnefteprodukt. But we try not to resort to such stern measures because we are more at fault in this: we deliberately requested the shipping assignment, knowing it would mean downtime. As a result, a ton of petroleum is now shipped more than 200 kilometers further than the customer needs. This results in greater transportation costs, less efficient use of ships, and neglect of the accepted formula — "More products in fewer ships." The ton-kilometers have become a goal-in-themselves. They have an existence of their own, as indicators for the sake of indicators.

We must close our eyes to cases of countershipments in order to lengthen the fleet's distance-shipped figures. For example, we were delivering A-76 grade gasoline from Kubyshev to petroleum depots in Kazan' while at the same time the same cargo was being shipped to Astrakhan'. A similar picture could be observed on another line: 127,000 tons of fuel was shipped from Gor'kiy to Kazan', while 84,000 tons went the other way, from Ufa to Gor'kiy. Kuybyshev also shipped gasoline to Yaroslavl' and Petrozavodsk, while Gor'kiy was loading the same fuel for shipment to Astrakhan' and Volgograd. This is how it was in 1979.

The situation did not change during the last navigation season either. The curve of countershipments and parallel shipments is steadily rising. In the final year of the 10th Five-Year Plan alone irrational shipments increased by an average of 12-14 percent.

Unfortunately, no changes are contemplated in the evaluation indicators of fleet work in the 11th Five-Year Plan either. According to preliminary outlines, in 1985 the steamship line is to reach a cargo turnover figure of 45 billion ton-kilometers. From what sources? It is not possible to give a competent answer to that question because the production of petroleum products at enterprises of the Volga-Kama basin has largely stabilized. Some of the petroleum shipping by railroad could be switched to water transportation. But even in this case we could not achieve the desired results. The railroad workers are not very willing to give us their petroleum shipping work. There is only one way out for us: lengthen the distance traveled by the fleet. Once again we will ask Goskomnefteprodukt, the Ministry of Petroleum Refining and Petrochemical Industry, and Soyuznefteeksport [All-Union Association for the Export and Import of Petroleum and Petroleum Products] to give us the missing ton-kilometers. We are not likely to achieve the desired results, just as happened in the last five-year plan. In those five years the steamship line fell almost 18 billion ton-kilometers short of planned goals for cargo turnover. We have no definite answer as to how we will find these new, mythical ton-kilometers.

This is something the planning agencies of the Ministry of the River Fleet should think about. The answer is a revision of the system of planning indicators. I think that the steamship line should conclude direct economic contracts with its customers. Incidentally, if they were making direct requests to us for petroleum shipping ton-kilometers would never figure in at all. Then we would be able to meet the requests of the customers in full. I have no doubt that the time has come when it is simply essential to carry out a thorough "reconstruction" of the indicator used to evaluate the labor of river workers. And this should be done as quickly as possible, because today it is seriously holding us back and in no way reflects the actual situation in water transportation.

It may seem at first glance that the river workers are looking for an easy time, for ton-kilometers have always stimulated shipping for long distances and to inaccessible regions. It is entirely natural, therefore, if we are to abolish this measure, that the question will come up: "What is to replace the ton-kilometer?" But we are not actually in favor of completely abolishing the indicator. It should be kept, but purely as a calculating indicator, not a fundamental one.

The direct contract is also good because it reflects both the quantitative aspects of shipping and, so to speak, the qualitative aspects. Petroleum and petroleum products will be delivered to places which need them, and exactly on schedule. This is most advantageous to the state. Moreover, transportation costs will be reduced. At present they are very high, more than 70 percent of the cost of petroleum products.

I suggest, therefore, that the following words be added to the chapter of the draft "Basic Directions" entitled "The Development of Transportation and Communications": "Insure a further improvement in the planning of transportation work, eliminate countershipping, unnecessary and over-long shipments, and other irrational forms of shipping, reduce transportation costs, lower the specific expenditure of resources for conveying cargo and passengers, and abolish the ton-kilometer as the primary evaluation indicator of transportation work."

ARKHANGEL'SK-BALTIC TIMBER SHIPPING GROWS, GREATER GROWTH ENVISIONED

Moscow VODNYI TRANSPORT in Russian 17 Jan 81 p 2

[Article by S. Borik: "The Routes of Northern Timber"]

[Text] The past navigation season was a difficult one on the Ministry of the River Fleet's major line for delivering northern timber to Baltic ports. This makes its results appear even more significant. River workers delivered 614,000 tons as compared to a planned figure of 540,000 tons. The workers of the Arkhangel'sklesprom (Arkhangel'sk Timber Industry) Association, the ports of Arkhangel'sk and Onega, the White Sea-Onega and Western Steamship Lines, the ports of Kaliningrad and Klaypeda, paper plants, line maintenance services, repair services, and shore facilities for the first time successfully accomplished a difficult supplementary assignment worked out by the three ministries. It is difficult to overestimate the significance of the impact achieved through the efforts of these allied sectors: thousands of railroad cars were freed to haul other freight.

It would probably be fair to consider the crews who were able to make six and seven round trips in the navigation season among the principal contributors to this labor triumph. Thirty-eight White Sea Onega crews competed against one another and against time, and as a result the timber conveyor worked without stopping. The crews of the motorships Volgo-Balt-166 and Komsomol Karelii, captained by O. Stavrov and V. Shestakov, were particularly successful.

The brigade method, which was used on the line by the White Sea-Onega Steamship Line, worked brilliantly in timber shipping. All the ships were divided into three detachments and worked in close cooperation, helping one another.

Introduction of the practice of filling out port papers at Slavyanka before the opening of the Leningrad Bridge was very important in reducing round trip time. The average time savings per ship per trip was 12 hours.

Loading operations in Arkhangel'sk and Onega and unloading in Klaypeda and Kaliningrad were better organized than before. The comments made about the workers in the latter two ports were highly flattering. With the same fleet as in past years, the collective shipped almost three times as much

wood to Pulp and Paper Plant No 1. The initiative they undertook in cooperation with the seaport, installing removable braces on the barges, increased their one-time load capacity by one-third. Both planning and material incentive for the work of the vessels were greatly improved, and as a result labor productivity was almost twice as high as in 1979.

The Western Steamship Line set up three sand storage facilities to load the timber fleet traveling back from Kaliningrad to Leningrad. In this way they eliminated ballast-carrying trips.

The fact that the participants in the transportation conveyor worked in a more coordinated fashion during the past navigation season is illustrated by these figures: the average round trip for a ship on the line was cut by 36 hours in comparison with 1979 and gross productivity rose by 5.6 percent.

The general picture, which is more or less satisfactory from the standpoint of meeting the current needs of the Baltic pulp and paper plants, takes on a different look when we compare what has been achieved with the assignments given to this line in the 11th Five-Year Plan. The outlook is defined in the draft "Basic Directions." It is contemplated that up to 1 million tons will be delivered from the North to the Baltic by water in 1985. In the first three years of the five-year plan the growth in timber shipping should average 120,000-130,000 tons a year.

The White Sea-Onega Steamship Line will probably not be able to achieve such significant growth in shipping volume with its own ships. This is not a difficult conclusion to reach. If they were only able to increase shipping volume by 50,000 tons in 1980 compared to 1979 when they lowered the round trip time of a ship on the line by 36 hours, what reserves will they have to put into action to double the growth in shipping?!

The challenge is made even greater by the fact that the loading and unloading ports in the past navigation season did not carry out the recommendations of the meeting of interested organizations held in Petrozavodsk on 22 April 1980. This meeting envisioned a 10 percent decrease in norms for ship processing. Then the supplier, Arkhangel'sklesprom, and the Baltic customers announced that their enterprises did not have the capacities to meet even these shipping demands. Experience confirmed what they said. Ship processing time did not decrease in the North or in the Baltic. The total ship time at anchor, on the contrary, exceeded the standards introduced in 1979. This was caused by both organizational and technical factors. Whereas the former, downtime because of irregular availability of ships, delay waiting for the canal, urgent repair work, or problems with workers, can be solved without capital investment by strengthening cost accounting (khozraschet) and improving planning, the situation is more difficult with the second group of factors.

The main consideration is that the timber shipping ports are operating at the limit of their capacities. In 1979 the technical resources in Onega already barely met shipping requirements. Loading work had to be done under difficult navigating conditions. Their stock of machinery is not adequate to the growing volume of work. It is especially alarming that, at present, work has not even begun to build the necessary capacities. It goes without

saying that this lack will be compensated for by an increase of ship processing each day in Arkhangel'sk. In September 1980 Dvinoaplav (possibly Dvina Rafting Organization) was unable to present more than 20,000 tons of timber in Onega for shipping. A second work front had to be opened immediately in Arkhangel'sk. On paper it was supposed to begin processing ships the previous spring. But it was not even ready to handle ships in September.

How can capacities at the timber shipping ports be raised to the necessary level quickly and with minimum expenditures? There are many proposals, and just as many leisurely statements. The only thing missing is a sound plan for the immediate and more remote future.

Arkhangel'skprom could draw from the experience with solving this problem at Kaliningradbumprom (possibly Kaliningrad Paper Industry Association), which is one of the destinations of the timber. They know how to reduce ship time in port there. In 1980 they began using a new ship-mounted crane in place of the old, low-powered one at the second unloading point of TsKZ-2 (possibly Pulp Plant No 2). In 1981 Kaliningrad will be able to receive 100,000 tons more timber than the last navigation season. At the same time a large mechanized dock with three portal cranes is under construction. Its first phase will begin operations by the start of the coming navigation season and the entire complex will be on line in 1983.

The Ministry of Timber, Pulp and Paper, and Wood Processing Industry should solve this problem in Klaypeda on the same scale. For several years now river workers have been calling for the unloading process there to be done with improved technology using an intermediate storage area. The existing dock needs reconstruction. But nothing is changing. From all appearances, there is no intention to solve this problem in the 11th Five-Year Plan either. The losses of river worker time there are unjustifiably high. The standard ship processing time is twice as great as its neighboring Kaliningrad. What this costs the fleet is easy to see when we say that a ship spends as much time unloading at Klaypeda as it needs to sail from Leningrad to Klaypeda.

Therefore, to fulfill the assignment of the 11th Five-Year Plan for shipping timber from the North to the Baltic the capacities of all the elements of the complex transportation chain must be evened out. The disproportions that occur because the Ministry of Timber, Pulp and Paper, and Wood Processing Industry and the Ministry of the River Fleet do not coordinate their efforts adequately must be eliminated as quickly as possible. One of the reasons for this situation is the fact that these two departments today still do not have unified technical-economic substantiation for development of the shipping system or plans for building capacities up to the required level. But very soon, in the 1981 navigation season, it will be necessary to increase the volume of raw material being transported to the pulp and paper industry of the Baltic by water significantly, relieving the railroad of this work.

Let us cite one example to show that the process of development of the line should be scientifically substantiated within the framework of a unified program today. In 1983 twice as many ships carrying timber will arrive in Kaliningrad as during the 1980 navigation season. The auxiliary fleet will need additional capacities. They should be under construction today, not

tomorrow. The work of improving shore facilities should also begin today, certainly not tomorrow. What kind of facilities will they have? What is the order of priority for new construction and reconstruction? How much capital must be allocated? Who will do this? There are so many questions without answers.

These answers should exist today.

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UPDATED DESIGN OF THE ZOYA KOSMODEMYANSKAYA CLASS ORE SHIP

Leningrad SUDOSTROYENIYE in Russian No 1, 1981 pp 1-6

[Article by S. M. Kozlov and A. P. Klimenko: "Updated Design of the Zoya Kosmodemyanskaya Class Ore Ship"]

[Text] In the 10th Five-Year Plan our country built ships of the class Zoya Kosmodemanskaya with a deadweight of 30,000 tons. These ships are designed to carry bulk cargoes and ore.* The ships are being used on long-distance lines by the Black Sea Maritime Steamship Line. In addition to the specified cargoes these ships are used to carry large-diameter pipe in the holds and on the upper deck and large-dimension and heavy cargo. The ships have good technical-economic indicators and expenditures for their construction were paid back much earlier than planned. Operating experience with the ships has confirmed that their principal features were properly designed: deadweight, cargo capacity, cruising range, and speed. The ore ships have good seaworthiness, stability, controllability, and suitability for cargo operations.

In view of the increased volume of shipping between ports with limited depths, a decision was adopted to continue building these ships in an updated version in the 11th Five-Year Plan. This predetermined the main directions of modernization of the design. While its designation, deadweight, principal dimensions, power plants, and region and range of sailing are preserved, the updated ore ship will satisfy all ratified international conventions and a number of national rules in effect on 1 June 1979. Among these are the International Convention on the Protection of Life at Sea (SOLAS-74) with due regard for the 1978 Protocol, the International Convention on Prevention of Pollution by Ships (MARPOL-73) with due regard for the 1978 Protocol, the regulations of the U. S. Coast Guard concerning prevention of pollution of the sea by ships, the 1975 health norms for vibration on sea-going, lake, and river ships, and several others.

Like the ships of the series built earlier, the updated ore ship will be a single-propeller, single-deck motorship with an unrestricted sailing

* See SUDOSTROYENIYE, 1975, No 2.

region. It has a short tank and the machine department and superstructure are located in the stern. Its class in the USSR Register is KM L3A2 (bulk cargo). The ship is designated to transport bulk cargoes, including various types of ore, grain, and apatite with a specific loading weight by volume of 0.36 cubic meters per ton and higher. It can also transport iron ore concentrates with humidity levels up to 15 percent.

Basic Elements and Features of the Updated Ship

Length, meters:	
Greatest	215.4
Between Perpendiculars	201.60
Width, meters.	31.80
Hull Height, meters	16.95
Draft by Summer Load line, meters	12.30
Deadweight, tons	52,700
Capacity of Cargo Holds, cubic meters	
Without Side Compartments of Hold No 5	60,050
With Side Compartments of Hold No 5	62,800
Tonnage, registered tons	
Gross	30,452
Net	18,945
Power of Main Engine, kilowatts	10,076
Speed under Load, knots	14.7
Sailing Range, miles	
Calculated	15,000
Increased by Reducing Load Capacity	20,000

When shipping liquefying concentrates the updated ship will be loaded to a draft of 11.7 meters; in this case the cargo is taken into hold Nos 2 and 7 and the middle compartment of hold No 5. More loading with this cargo is limited by considerations of general longitudinal strength and ship stability.

A number of changes were made in the design as to the equipment and arrangement of the power plant, pipelines, and general ship and domestic systems and devices. Special attention was devoted to the technology of ship construction. The technological level of the hull, systems, and pipelines was raised significantly and the conditions for finishing and electrical installation work were improved.

In connection with the increased requirements and new standards for the crew's working and resting conditions, the updated design envisions a complete rearrangement of the stern superstructure, dividing it into two blocks: the living block and the machine block. The level of comfort in the living, public, and domestic quarters is significantly raised. The living block has crew cabins, public areas, a galley, provisions storerooms, medical rooms, a sports complex, a swimming pool and rest area, a sauna, a crafts workshop, service areas, and the like. The stern block houses the shafts of the machine department, the emergency diesel generator room, the machine room fans, the trash incinerator room, the welding room, and so on. The blocks are connected by a bridge on the second level of the superstructure.

All crew members are housed in single cabins with wash basins, showers, and toilets. Two-person cabins are provided for the eight on-the-job trainees. The number of cabins in the blocks for command personnel has been increased. The cabins of the captain, chief engineer, and senior and first mates have small kitchens and the captain's cabin also has a sitting room. The space in public areas and the width of the corridors and gangway have been increased. With the exception of the cabins of the captain and chief engineer all cabins are standardized. The living, public, and service quarters have new furniture. The floor in the cabins, sitting rooms, and radio rooms will be carpeted.

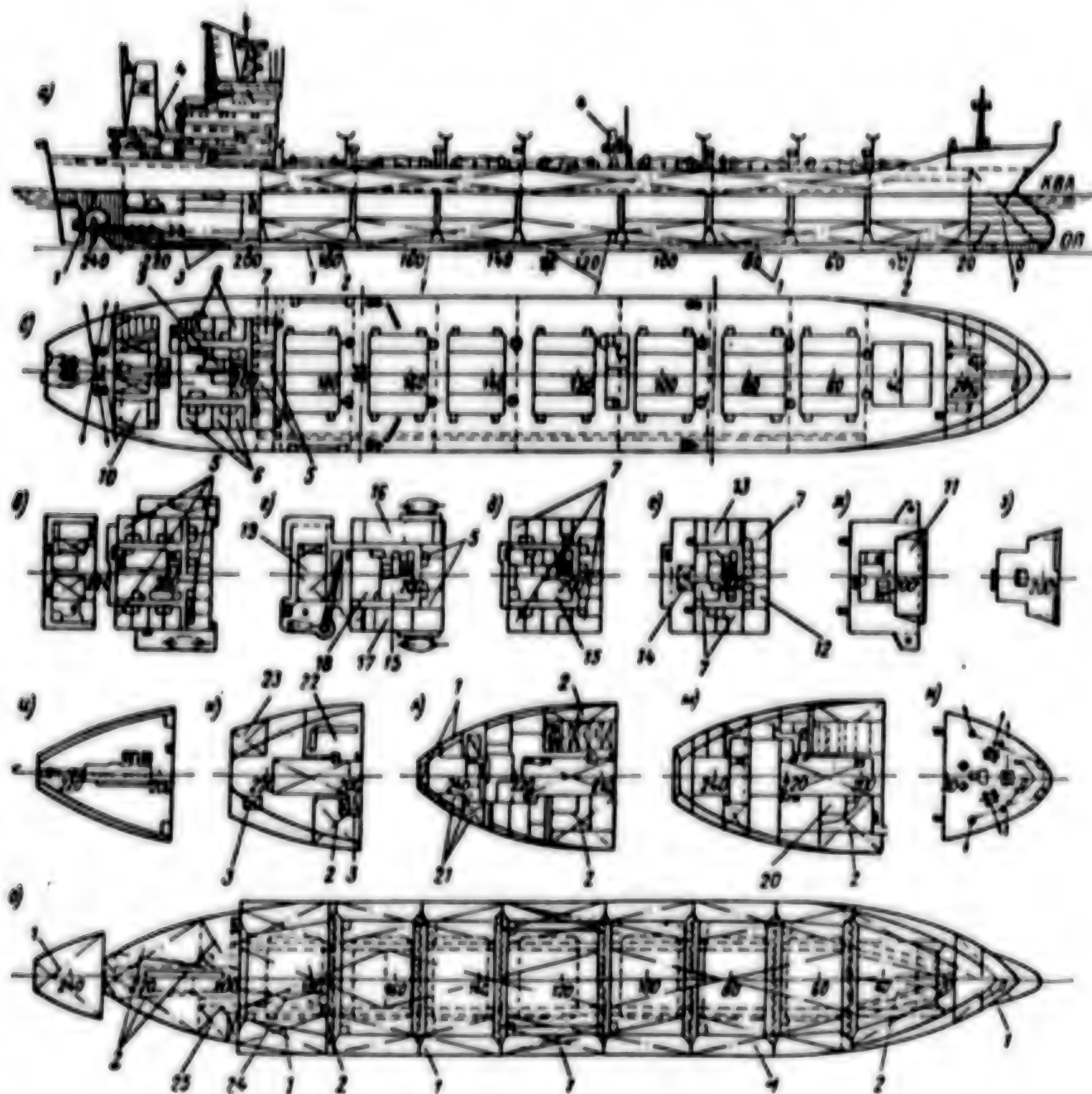
The design envisions four types of standardized cabins. The interior design and all elements of equipment for the living and public quarters were worked out with due regard for the requirements of the M100 modular system.

The insulation and wall covering of the rooms were done with materials that meet the standards of SOLAS-74. The built-in fire protection of the ship has been improved by increasing the number of fire-resistant design elements. The covering material of the top ceilings in the living and public quarters and the bulkheads in all cabins are done on the modular system; the bulkheads of the block cabins and the public and service quarters will be covered with sheets of noncombustible material, while the top ceilings in the service quarters will be covered by sheets of an aluminum-magnesium alloy.

The lines of the hull and the design division of the hull into holds, compartments, and tanks is left practically unchanged. The new ore ships, unlike the ships of the first series, will not have the washing water tanks located in the inner bottom beneath the power plant. They will be near the tiller department, and heavy fuel tanks will be in their place. A number of modifications following from experience with operation of the ship and the need for technological simplification of design elements involve the hull of the ship. Among them are a slight increase in the height of the hull and thickness of the outer sheeting of the forward end and reinforcement of it against slamming, enlargement of the underdeck ballast tanks in the first hold region, a change in the design of the coupling of the corrugations of the main transverse bulkhead and the "shack," use of sheet panels only in the design elements of the decks and walls of the superstructure, and rejection of the use of 10 KhSND steel to make the design elements of the inner bottom and outer sheeting near ore holds No 2, 5, and 7.

The main engine on the first updated ships will be a low-rpm 8DKRN-74/160-3 diesel with an output of 10,076 kilowatts at 120 rpm. After production of the highly economical new generation of L67GFCA diesels, which use 189-193 grams per kilowatt-hour is mastered, they will be installed in the ship. In view of the increase in electricity consumption resulting from the employment of new equipment and enlargement of the living and public quarters, plans contemplate using more powerful DGR400/300-2 diesel generators with an output of 3 x 400 kilowatts. When the ship is sailing it is possible to connect a 300-kilowatt turbogenerator to the power plant. This turbogenerator is fed by steam from the KUP 660/7-1 utility boiler. A 200-kilowatt emergency diesel generator is envisioned for the emergency steering gear. The scope of automation of the power plant will meet the

Figure 2. General Diagram of the Ship: (a) Side View; (b) Top View; (c) Boat Deck; (2) First Deck of Superstructure; (c) Second Deck of Superstructure; (e) Third Deck of Superstructure; (f) Lower Bridge; (3) Upper Bridge; (u) Machine Department; (k) First Platform; (A) Lower Deck; (M) Second Platform; (N) Tank Deck; (o) Inner Bottom.



Key: (1) Ballast Tanks;
(2) Fuel Tanks;

[Key continued next page]

Key (continued):

- (3) Tanks for Oil;
- (4) Cargo Hoisting Crane, 3.2 tons;
- (5) Single Cabins for Rank-and-File Personnel;
- (6) Cabins for On-the-Job Trainees;
- (7) Single Cabins for Command Personnel;
- (8) Medical Post;
- (9) Provisions Storehouses;
- (10) Emergency Diesel Generator Room;
- (11) Navigation Room;
- (12) Captain's Cabin;
- (13) Radio Room;
- (14) Swimming Pool;
- (15) Sports Complex;
- (16) Mess Hall;
- (17) Company Cabin;
- (18) Galley;
- (19) Trash Incinerator Room;
- (20) Waste Water Decontamination Unit Room;
- (21) Fresh Water Tank;
- (22) TsPU [possibly central control post];
- (23) Boiler Water Tank;
- (24) Tank for Oil-Containing Waste Water;
- (25) Tank for Domestic Waste Water.

requirements made for ships with the A2 automation insignia in the class symbol of the USSR register. The power plant will be controlled by an improved, integrated system.

During the process of updating significant changes had been made in the design of the anchor device to improve its working reliability. Special remote-control feeding out of the anchor from the wheelhouse and a counter for length of chain played out are envisioned. Instead of mechanized hoists for the pilot, special overboard gangways with lowering storm gangways will be installed in conformity with the requirements of the SOLAS-74 and the International Pilots Association. Seven automated electrical mooring winches with a traction force of 122.6 kilonewtons will be used during mooring operations.

In view of the increased superstructure volume plans call for installing a Breeze-30 air conditioner in addition to the two Breeze-56 air conditioners. A sectional KGTF/40/10 air conditioner will replace the unit air conditioner in order to improve climatic conditions in the TsPU. Trash incinerators to handle waste from petroleum products and solid waste are envisioned on the updated ships to meet the requirements of the MARPOL-73; in addition, containers will be used to collect trash. The ships are to be equipped with LK-50 devices to decontaminate waste water. The system for collecting, decontaminating, and removing petroleum-containing water will include a hold water separator and an automatic system to monitor the petroleum content of water poured overboard. The design of the channel-type ballast system makes it possible to run ballast from the underdeck

tanks below the level of the ship's waterline in the ballast; the design makes it possible to receive ballast only in these tanks. The set of radio communications and navigation equipment has been updated during the process of modernization.

Plans call for building the updated ships at the Okean Plant, which has accumulated a great deal of experience in building large tonnage ships. The hulls of the new ore ships are to be put together from large panels at the dry dock; the production technology envisions maximum use of the ESAB mechanized flow line to produce sheet sections and subsections from large steel sheets 12 meters long. The three-dimensional sections have been consolidated (their length will be 24 meters), which will reduce the number of installation joints at the dock from 17 to 10. The weight of the sections has been raised to 200 tons, and the weight of the panels to 600 tons. Building the superstructure from two blocks will make it possible to expand the front of installation work in the foredock area. The straight walls of the blocks, the absence of slanting in the forward and side walls of the superstructure, and the absence of molded and radial joints in the design elements will permit even broader use of flow-mechanized methods of hull and finishing construction work. The power plant will have 22 functional units which will be manufactured in the shop and installed in the ship in assembled form. Pipelines will be laid by panels and manufactured in the shop from rough drafts. Plans envision autonomous local technology for the electrical installation work using cable connectors.

Thus, as the result of updating work the operating capabilities of the ore ships will be expanded, their habitability and technological features will be improved, and they will be more competitive.

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INTRODUCTION OF INTEGRATED QUALITY CONTROL SYSTEM

Leningrad SUDOSTROYENIYE in Russian No 1, 1981 pp 32-33

[Article by P. M. Bagneko: "Results of the Introduction of an Integrated Quality Control System for the Output of the Kherson Shipbuilding Workers"]

[Text] The collective of the Kherson Shipbuilding Production Association imeni 60-Letiya Leninskogo Komsomola, carrying out the decisions of the 25th CPSU Congress and decrees of the party and government, is focusing attention on raising the efficiency of production and the quality of industrial output and on improving the consumer features of goods it produces for the population. Questions of improving the quality of output are resolved on a planned basis in the association within the framework of an integrated output quality control system that was formed during the 10th Five-Year Plan. This system is based on the documents of the system for defect-free manufacture of output, whose main principles were applied to all the technical services and to the instructions and standards of the enterprise.

Further elaboration of the quality control system was carried out in conformity with the CPSU Central Committee decree "The Working Experience of Party Organizations and Collectives of Leading Industrial Enterprises in L'vovskaya Oblast in Development and Introduction of Integrated Output Quality Control Systems."

Development and introduction of the integrated quality control system [IQCS] at the association was done in four stages. The first stage was the preparatory stage and ended in late 1976 with formulation of a list of necessary enterprise standards and the establishment of a bureau to coordinate work on the IQCS. During the second stage, in 1976-1977, the first and second phase enterprise standards were developed and introduced and the system of defect-free labor was first employed. Development and introduction of the third and fourth phase enterprise standards lasted through the third stage (1978), and introduction of the system of defect-free labor was completed. The fourth stage, in the first half of 1979, was the concluding stage. During it work was done toward final introduction of the detailed design of the IQCS, its functional qualities were analyzed, the system was polished based on remarks by the working commission, and it was finally turned over to the sectorial commission. During this period a total of 78 enterprise standards, 27 statutes on divisions, and three statutes on material incentive were developed. The integrated quality control system was fully introduced almost six months ahead of schedule.

One of the fundamental principles of the IQCS is that all enterprise subdivisions participate in insuring high quality products.

Of course, the quality of articles depends significantly on the level of development of planning and design documents. The introduction of standards to insure more rigorous monitoring with coordination of documentation made it possible to improve the quality of the documents, which later had a positive influence on the process of building pilot (first-run) ships and floating docks. The procedure for development of documents for the construction of series-produced ships is also defined by special standards.

As long ago as 1973 a statute had been instituted to establish the use of limiting standards, in particular for input control of the planning and design documents of new ship designs. This made it possible to eliminate unsystematic substitution of certain materials and articles for others and to raise the level of interdesign standardization of materials to 97 percent and parts to 70 percent. This means that about 70 percent of the equipment and production processes used on ships built earlier is used for newly designed ships, which greatly reduces the production preparation cycle and increases its efficiency. The economic impact of introducing limiting standards for the enterprise was 326,000 rubles in the 10th Five-Year Plan.

Raising the technical level of production and refining technology, which are done in conformity with the plans for technical development of the enterprise, are decisive factors in insuring product quality in the production process. For example, during construction of Nakhodka class tankers with deadweights of 25,000 tons use of the large-block method of shaping the hull and full installation of zonal-functional units and aggregates in the machine department made it possible, in effect, for the enterprise to follow the principle of "not building the ship but assembling it." The quality of these ships was also significantly higher.

The system of defect-free manufacture of output has been elaborated under conditions of the IQCS. The introduction of enterprise standards for the organization and conduct of technical control and material and moral incentive for producing high quality output helped insure stable product quality. The requirements of the department of technical control, naturally, became more rigid. Therefore, the percentage of output accepted on the first submission declined somewhat. This indicator soon began rising, however, reaching 97.7 percent at the beginning of 1980. Spot checks of compliance with state, sectorial, and plant standards and correct performance of technological processes, done by the department of technical control, also play a significant part in preventing defects.

The level of organization of production processes and precise monitoring of performance have a significant influence on output quality, which in the final analysis depends on the labor of the entire collective and of each worker. Therefore, questions of the organization of labor and monitoring occupy a prime place in the IQCS and its subsystem for defect-free labor is a basic element of the system.

The working experience acquired in raising the quality of output produced by introduction of the IQCS made it possible to elaborate and refine the

L'vov method and move from evaluating the labor of the collective to a quantitative evaluation of the quality of the labor of each employee. As a result, moral and material stimulation plays a much larger part, and this makes it possible to organize socialist competition for defect-free labor more effectively. Incentive is given to workers who have their own personal stamps with the titles "Outstanding Quality Worker," to winners in competition for the best "Creative Engineer Passport," and collectives who have received the title "Brigade of Outstanding Quality." The indicator of work quality is considered to be one of the fundamental ones in assigning rating positions to the shop, division, bureau, and section and also in personal competition when awarding the honorary titles "Outstanding Quality Worker," "Best in the Profession," "Best Production Engineer," "Best Designer," "Best Economist," and "Best Technician."

The broad and multifaceted work to raise and insure product quality ends with state certification. In 1979 eight articles produced by the association carried the state Mark of Quality. They constituted 64.5 percent of the total volume of output and 76.2 percent of the output volume subject to certification. The Dnepr class dry-cargo ship, the Nakhodka class petroleum tankers, sets of boat davits (eight type-sizes), friction locks (20 type-sizes), devices for securing and feeding out the bitter end of the anchor chain (22 type-sizes), Dnepr motor launches, and D-225 lounge-cots which were produced for export were also in the highest quality category. The remaining products subject to certification were in the first quality category, including ships for carrying ore and composite docks. It is entirely natural, therefore, that the collective of the association won the challenge Insignia of the oblast committee of the Ukrainian Communist Party "for achieving best results in production of output with the state Mark of Quality" three times in 1979.

The indicators that characterize the quality of output produced and work improved significantly in 1976-1979 as the result of introduction of the IQCS. The proportion of industrial output with the state Mark of Quality in total output volume rose from 0.3 to 64.5 percent, and all output is either in the highest or first quality categories. Losses from internal defects were cut by two-thirds. The number of employees with personal stamps rose 1.2 times and the number of workers named "Outstanding Quality Worker" tripled.

The structure of the set of enterprise standards within the IQCS covers more than just the sphere of controlling product quality. The specifications for jobs aimed at improving the organization of production, the quality of labor of both collectives and individuals, and raising production efficiency regulate the following standards of the system: transporting and launching ships; removing docks; conducting moored, running, and acceptance testing; centralized delivery of materials and articles to the shops; procedures for making and performing economic contracts; determining the shift coefficient and use of equipment; determining, planning, and keeping track of the labor-intensity of producing output; planning and recording the prime cost of output.

The association is doing some work to refine technological preparation for production on the basis of the standards of the YeSTPP [possibly Unified

System for Technical Preparation of Production] and OSTPP [possibly Sectorial System for Technical Preparation of Production]. Thus, an enterprise standard titled "IQCS. System for Technological Preparation of Enterprise Production. Basic Principles and Procedures of Work Organization," has been introduced.

Thus, the integrated quality control system now in use at the association is a basis for raising not just the quality of output and labor but also the efficiency of production as a whole.

Improving the organization of production and quality of work have had a good effect on indicators of production efficiency. During the period under consideration the level of interdesign unification has become the highest in the sector, the technical level of production has risen 1.1-1.2 times, the time required to build ships has been cut by 10-20 percent, unproductive expenditures have declined, and performance discipline is better. The calculated annual economic impact from introduction of the IQCS and other steps to insure quality was 630,000 rubles.

Experience demonstrates that the efficiency of the IQCS is not a result of the number of enterprise standards, but rather their content, above all precise regulation of work procedures ("what to do"), identification of workers ("who is to do it"), and specific performance times ("when it is to be done").

But the IQCS that has been worked out is not a fixed and unchangeable system. New challenges demand systematic, creative work to improve the system. Specifically, these activities are contemplated: periodic review and republication of standards with due regard for accumulated experience; development of new STP's [expansion unknown]; switching certain problems to computers; expanding the sphere of application of enterprise standards aimed at raising the quality of all work and production efficiency; and more rigorous control of compliance with standards.

Questions of improving product quality are a focus of attention for the party, Komsomol, trade union, and other public organizations of the association. They direct the efforts of their members to teaching every worker a communist attitude toward labor and pride in the occupation. They also work to create an atmosphere of intolerance for those who permit defective work. High quality work should become the norm for every shipbuilding worker.

The working experience of the Kherson Shipbuilding Production Association imeni 60-Letiya Leninskogo Komsomola in introducing and improving the IQCS has been approved by the scientific-technical council of the sector and recommended for use at other enterprises.

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MISCELLANEOUS

ELEVENTH FIVE-YEAR PLAN FOR TRANSPORTATION OUTLINED

Moscow TRANSPORTNOYE STROITEL'STVO in Russian No 1, 1981 pp 1-2

[Editorial: "At the Starting Line of the Eleventh Five-Year Plan"]

[Excerpt] Between the 9th and 10th 5-year plans the national income increased 400 billion rubles, industrial output grew 717 billion rubles, and the output of agriculture increased by 50 billion rubles. Four-fifths of the national income was used directly for the consumption of the population and for construction of housing and social and cultural service facilities.

Capital investments in the national economy amounted to 635 billion rubles. More than 1,200 major industrial enterprises were put into operation.

The pace of scientific-technical progress speeded up, new technology was applied to the national economy on a larger scale, and the technical level of production rose.

The 17-percent rise in the productivity of social labor accounted for 75 percent of the growth of output in industry, 100 percent in agriculture and 90 percent in construction.

Transport construction workers, who did quite a bit for the further development and improvement of the basic forms of transportation in the Soviet Union, contributed a decent share of inspired work to the country's overall achievements in the 10th Five-Year Plan.

Organizations of the Ministry of Transport Construction performed a total volume of contract work between 1976 and 1980 valued at 19.6 billion rubles (according to preliminary figures), which is 100.9 percent of the 5-year plan.

A number of new railroads which have extremely great importance to the national economy were put into regular service in the 1976-1980 period, including the following lines: Tobol'sk--Dem'yanskaya--Surgut, Surgut--Nizhnevartovsk, Kustanay--Uritskoye, Biryusinskaya--Karabula, Dolinskaya--Pomoshchnaya, Krasnodar--Tuapse, Beloretsk--Karlaman, Agryz--Mendel'zhevsk,

Muraptalova--Orenburg, Malinovoye Ozero--Lokot', Synya--Usinsk, Sevan--Shorzha--Zod, etc.

Construction of the Baykal-Amur Main Rail Line progressed on a broad front, and even now about 1,400 km of its sections have been opened to train service. An important component of the BAM complex--the BAM--Tynda--Berkakit north-south line, which is 400 km long, was put into regular service during the 10th Five-Year Plan. In 1980 the builders of the main rail line finished laying the track in Irkutskaya Oblast and Khabarovskiy Kray, did 130 million rubles' worth of construction and installation work over and above the plan assigned for the 5-year period, put into operation the existing sections between Komsomol'sk-na-Amure and Berezovka, a distance of 201 km, and built many complicated projects ahead of schedule, including the Baykal'sk Railroad Tunnel.

In carrying out the decree of the CPSU Central Committee and USSR Council of Ministers entitled "On Measures To Develop Railroad Transportation in the 1976-1980 Period" transport construction workers laid thousands of kilometers of second track on the most heavily trafficked sections and routes.

Many rail lines were electrified during the 5-year period, including the following routes: Kamen'-na-Obi--Irtyshskoye, Tselinograd--Ekibastuz, Sverdlovsk--Kamensk-Ural'skiy--Bogdanovich--Tyumen', Danilov--Vologda, Vyaz'ma--Orsha, Khabarovsk--Bira, Kazatin--Zhmerinka, Derbent--Makhachkala--Gudermes, Magnitogorsk--Beloretsk--Karlaman, Krasnodar--Tuapse, etc.

Automatic equipment was installed on more than 14,000 km of rail line.

Work was done to develop railroad junctions and stations, including the laying of a total of more than 1,100 km of track.

More than 3,000 km of railroad sidings were built at major industrial and agricultural enterprises.

A number of new hard-surfaced highways were built, including sections of the following main national highways: Leningrad--Murmansk, Moscow--Riga, Kuybyshev--Ufa--Chelyabinsk, Sverdlovsk--Chelyabinsk, etc.; and highways were also built in the oil and gas fields in Western Siberia.

A large amount of construction and installation work was done on civil aviation airports being put into service or undergoing reconstruction at Leningrad, Minsk, Tashkent, Riga, Tallinn, Ulan-Ude, Simferopol', Nizhnevartovsk, Yakutsk and many other of the country's cities and settlements.

Various hydraulic engineering structures were built and put into service in the country's seaports and river and fishing ports. They included the container terminal and coal transshipping complex in the port of Vostochnyy, facilities for the ferry service between Il'ichevsk and Varna, wharves and

and port-associated plants in the ports of Il'ichevsk and Ventapils, docks and piers in the ports of Novorossiysk, Kerch', Tuapse, Leningrad, Riga, Murmansk, Arkhangel'sk, etc.

Large and nonstandard railroad trestles, highway bridges and city bridges were built over the Amur at Komsomol'sk-na-Amure, over the Angara at Irkutsk, over the Ob' at Novosibirsk, over the Irtysh at Omsk, over the Tom' at Kemerovo, over the Dnepr at Kiev and Dnepropetrovsk, over the Daugava at Riga, over the Don at Kalach, over the Volkhov at Novgorod, over the Kama at Berezniki, over the Zeya at Blagoveshchensk, etc.

New subway lines were put into service over a length of 82 km in Moscow, Leningrad, Kiev, Khar'kov, Tbilisi, Baku, Tashkent and Yerevan, and construction began on subways in Minsk, Gor'kiy, Novosibirsk, Kuybyshev and Sverdlovsk. A number of mountain tunnels were built on the country's railroads and highways.

Housing was built with a total floor space of more than 8.5 million square meters along with a large number of buildings for cultural and consumer services. A large amount of work was done to develop the industry's own industrial base. Additional capacities were introduced for the production of prefabricated reinforced concrete, metal fabrications used in bridge construction, and rock products, as well as facilities for repairing construction equipment.

Transport construction workers took an active part in building a number of projects that were part of the 1980 Olympics.

At the same time there have also been serious shortcomings in the practical activity of transport construction workers aimed at performing the tasks set them by the 25th CPSU Congress. To be specific, the planned contract work for the principal client--the Ministry of Railways--was not fulfilled. Nor were capital investments in the industry's own construction altogether assimilated. Some projects called for in the plan did not go into operation. There was a sizable lag in attainment of the assigned growth rates of labor productivity.

Correcting these and other shortcomings that have been discovered in performance should be among the priority tasks toward whose performance the efforts of all collectives of transport construction workers should be directed.

The Soviet people have entered upon the new year, 1981, the first year of the 11th Five-Year Plan, in a climate of new industriousness and political enthusiasm evoked by the decisions of the October (1980) Plenum of the CPSU Central Committee, the Law on the State Plan for the USSR's Economic Development in 1981, adopted by the fourth session of the USSR Supreme Soviet, Ninth Convocation, and by the nationwide discussion of the draft of the "Main Lines of USSR Economic and Social Development for the Period 1981-1985 and the Period Up to 1990," prepared by the CPSU Central Committee for

the 26th party congress. These documents defined the tremendous tasks facing our country in an important new stage of its advance toward communism.

Transport construction workers confront large and crucial tasks in the first year of the 11th Five-Year Plan. The total volume of construction and installation work in transport construction in 1981 has been set at 4.4 billion rubles, which is 7.2 percent more than actually done in 1980. This includes more than 2 million rubles on projects of the Ministry of Railways (here the growth is 11 percent, including 23 percent on the BAM).

The railroad network is to be extended by 760 km thanks to completion of construction and initial operation of such important projects as the following lines: Novo-Serbiyevskaya (Pogromnoye)--Pugachevsk, Ledmozero--Kostomuksha, Ust'-Kut--Kunermu (western section of the BAM), etc.

On the most important routes putting a limit on the handling and traffic capacity of the railroads second track will be installed over a length of 820 km, and more than 1,000 km of lines will also be electrified, including Orsk--Orenburg, Karaganda--Moloty, Bira--Arkharu, and Orsha--Baranovichi.

Automatic block signaling and centralized traffic control are to be installed on 1,931 km on the most active road sections.

Construction organizations of Glavdorstroy [Main Administration for Construction of Roads and Highways] and Glavzapsibdorstroy [Main Administration for Construction of Roads and Highways in Western Siberia] are building sections of main national highways and hard-surfaced roads over more than 1,200 km in various regions of the country, more than 645 km in the oil and gas fields in Western Siberia alone (as against 415 km in 1980).

In 13 of the country's cities subways will be under construction, and this year new subway sections with a total length of 5.9 km are to be put into service in Leningrad and Kiev.

A large volume of work is to be done by subdivisions of Glavmorrechstroy [Main Administration for Construction of Maritime and River Facilities] on the construction and reconstruction of seaports and river and fishing ports, shipyards and ship repair enterprises, as well as to dredge channels and reinforce shores. Wharves to be put into service in 1981 in seaports and river and fishing ports comprise more than 2,000 running meters.

Bridgebuilders of the Ministry of Transport Construction are to build large and nonstandard bridges over the Oka at Gor'kiy, Neva at Leningrad, Moskva in Moscow, the Vyatka and Vokhov in Kirovskaya and Novgorodskaya oblasti, as well as a great number of bridges and overpasses on railroads, sidings and highways.

Transport construction workers are to build housing with a total floor space of more than 1.6 million square meters in the new year, schools to

accommodate 8,700 pupils, vocational and technical schools for 4,500 students, children's preschool institutions to accommodate nearly 10,000, and other buildings for cultural and consumer services.

Plans also called for building and putting into operation productive plant for manufacturing 200,000 cubic meters of prefabricated reinforced concrete products, plants for repairing construction equipment, and housing and cultural and consumer service facilities for the industry's own labor force.

The responsible program of operations of transport construction workers in 1980, which calls for a larger volume of work, necessitates straightforward organization of production in every construction and installation organization and at every industrial enterprise from the very first day and a uniform pace to carry out the year's state plans and special tasks in strict accordance with schedules and contracts. At the same time the measures outlined for the transition to new and progressive forms of planning, recordkeeping of performance and material incentives in transport construction, in accordance with Decree No 695 of the CPSU Central Committee and USSR Council of Ministers, dated 12 July 1979 and entitled "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Increasing Production Efficiency and Work Quality," must be carried out in a planned way.

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MISCELLANEOUS

INCREASES IN FREIGHT TURNOVER

Moscow EKONOMICHESKAYA GAZETA in Russian No 3, Jan 81 p 1

/Article: "Between the Lines of the Draft of the CPSU Central Committee"7

/Text7 The basic task of transport is to fully meet the needs of the national economy and the population for shipments on a timely basis, to raise the efficiency and quality of work of the transportation system and to more fully satisfy the needs of the national economy and the population for communications services.

(From the Draft of the CPSU Central Committee
for the 26th CPSU Congress)

During the years of the five-year plans a well developed transportation system has been created in the Soviet Union. The system joins together all basic forms of transportation: railroad, sea transport, river transport, automotive transport, pipelines and air transport. The freight turnover of all common use transport, as can be seen in the following diagram, has increased from 3.8 trillion ton-kilometers in 1970 to 6.2 trillion ton-kilometers in 1980.

Growth in communications product (1970 = 1)

1970 - 1 1975 - 1.5 1980 - 2

Freight turnover for all common use transport
(in trillions of ton-kilometers)

1970 - 3.8 1975 - 5.2 1980 - 6.2

In the Eleventh Five-Year Plan the task is set to increase the freight turnover of railroad transport by 14 to 15 percent, sea transport by 8 to 9 percent, river transport by 19 to 20 percent, automotive transport by 1.4-fold.

The Soviet Union has a large complex of modern means of communications. In 1980 as compared with 1970 communications product increased 2-fold. The CPSU Central Committee Draft calls for the continuing development of the unified automated communications network based on the latest systems of data transmission and for the further development of color television and stereophonic radio broadcasting. The measures outlined in the Draft of the Basic Trends for the Economic and Social Development of the USSR in 1981 through 1985 and for the Period Up to 1990 must more completely meet the needs of the national economy and the population for communications services.

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MISCELLANEOUS

FREIGHT TURNOVER, PASSENGER TURNOVER

Moscow EKONOMICHESKAYA GAZETA in Russian No 3, Jan 81 p 2

[Articles: "The Development of Transportation and Communications"7]

[Text7 Transportation is often figuratively called the circulatory system of a nation's economy and communications its nervous system. And in truth the transportation systems and the means of communications join the national economic complex into a single unit. The transportation systems link the extracting industry with the refining industry, agriculture with industry and the producers of goods with their consumers and promote the development of foreign economic ties.

Good means of transportation and communications create favorable conditions for contacts between people, for the exchange of experience and cultural valuables, for organizing the rest and recuperation of workers and for tourism.

In his speech at the November (1979) Plenum of the CPSU Central Committee Comrade L. I. Brezhnev emphasized: "Transportation, of course, has always played an important role. Now, during the unprecedented movement of industry into Siberia and the Far East and the increased specialization and cooperation, the importance of transportation is even greater."

During the Tenth Five-Year Plan transportation was further developed and its equipment was improved.

Pipeline, sea and air transport developed the fastest in recent years. Pipelines accounted for nearly 19 percent of the total freight turnover of the Soviet Union. The construction of the Baykal-Amur Railroad continued.

During recent five-year plans radical changes were made in the structure of passenger conveyance. Whereas the railroads in the past carried the majority of passengers, now more than 60 percent of all passenger turnover is handled by air transport and buses. In the Tenth Five-Year Plan a half billion passengers made use of air transport.

Quite a bit has been accomplished, but the needs of a rapidly developing national economy and the demand of the population for transportation services are still not being met fully. The flow of cargo and passengers is increasing rapidly. The transportation system is operating in a very taut mode; the railroad system is working under a particularly heavy load.

The Draft of the Basic Trends calls the accomplishment of comprehensive measures to improve the operation of all forms of transportation, especially the railroad, during the Eleventh Five-Year Plan, and to ensure their development to more fully meet the needs of the national economy and the population.

Transportation is a key, basic sector of the national economy; it must be developed at particularly high rates based on a long-term, comprehensive program, encompassing all forms of transportation. L. I. Brezhnev pointed out the importance of developing such a program at the November (1979) Plenum of the CPSU Central Committee.

The Draft of the Basic Trends calls for plans to develop and improve the work of all forms of transportation during the Eleventh Five-Year Plan. These plans must become a component of a long-term, comprehensive program, a first stage in the program.

Railroad transport is to receive a reoutfitting. Steps are to be taken to increase the throughput and carrying capacities of the railroads on heavily used lines. Railroad freight turnover is to be increased by 14 to 15 percent and passenger turnover by 9 percent. Labor productivity is to be raised by 10 to 12 percent.

During the next five years not less than 3,600 kilometers of new railroad tracks must be built; train traffic must be opened along the entire Baykal-Amur Railroad. Five thousand kilometers of secondary tracks are to be put into operation, more than 6,000 kilometers of tracks are to be electrified and more than 15,000 kilometers are to be equipped with automatic braking systems and dispatch centralization.

Particular attention is being given to increasing the capacity of stations and junctions, to strengthening the repair and construction base and to replacing the locomotive and railcar park with modern rolling stock. The rapid switchover of the railcar park to roller bearings, which will help to conserve energy resources, lubricants and non-ferrous metals, must provide a significant effect. It will raise the reliability of equipment and will make it possible to reduce the number of employees engaged in the inspection and repair of rolling stock.

In sea transport the Draft of the Basic Trends calls for an improvement in the use of the fleet, ports and ship repair facilities and for an increase in the efficiency of exporting transportation services. Freight turnover is to be increased by 8 to 9 percent. The capacities of sea ports and ship repair facilities, particularly on the Baltic Sea, the Far East and the Black Sea, are to be increased.

The fleet will be fitted with specialized container ships, barge towers, railroad ferries, ships for use in the arctic and icebreakers. Ships will begin to be equipped with atomic power stations. All of this will make it possible to reduce the time that ships spend in ports, to speed up the delivery of cargo and to decrease the labor expenditures for loading and unloading operations.

The material-technical base of river transport, especially in areas where it is the basic form of transportation, will be substantially strengthened. The river fleet will be equipped with ships having a large carrying capacity capable of going from rivers to the sea, with tugboats and barges for large freight trains, icebreakers and comfortable passenger ships. As in the ocean-going fleet, particular attention must be given to increasing the processing capacity of ports and the development of the repair base. Freight turnover of river transport must increase by 19 to 20 percent.

Automotive transport will continue to be developed rapidly; the freight turnover of common use automotive transport will increase 1.4-fold. The rapid development of the primary network of highways and road building on a large scale in rural areas is planned. The emphasis will be put on the rapid development of common use automotive transport, on concentrating the vehicle park in large farms, which will make it possible to more rationally organize the operation and repair of automobiles. This will be promoted by the improvement of the structure of the automotive park by equipping it with vehicles with a large freight carrying capacity, specialized and small trucks. The passenger turnover of common use buses is to be increased by 16 to 18 percent.

In air transport the development of the network of airports on main and local air routes will be continued. The airports will be equipped with modern means of mechanization and automation of shipping processes and aircraft servicing.

A big step forward will be made in industrial and pipeline transportation. The pipelines will not only carry petroleum and natural gas, but a significant portion of all petroleum products. The modernization and reequipping of industrial transport are to be carried out more rapidly. The adoption of containerized, pneumatic containerized, hydraulic and other modern ways of delivering large cargoes over short and medium distances will be speeded up.

In the Eleventh Five-Year Plan much is to be done to improve services to passengers. In the future the civil air fleet will be developed rapidly. The number of passengers that it conveys will increase 1.3-fold. The network of airports will be expanded. Modern onboard and ground systems of navigation and radio engineering equipment will be used extensively. This will ensure a rise in the regularity and safety of flights. The automotive park will be equipped with modern buses. Improving the organization of their operation in cities and in the country will serve the same purpose - raising the quality of transport services to the population.

The Draft of the Basic Trends devotes particular attention to improving the planning, organization and technology of shipments and their management in all forms of transportation. For the transportation system to become a truly unified conveyor it is important to improve the coordination of the operation of all means of transportation and their interaction with different sectors of the national economy and to improve mixed shipments.

The rationalization of transportation ties and reducing shipping expenditures are very important for raising the efficiency of the entire national economy. River transport must take on some of the railroad's shipments. For short distances it is more advantageous in many cases to use trucks instead of railcars to carry cargoes. Large reserves will be put into operation by rationalizing shipments, by strictly adhering to patterns of normal freight flows and by carefully binding consumers to product suppliers. The 1981 plan calls for an increase in the freight turnover of all forms of transportation by 2.6 percent, including railroad transport by 2.7 percent.

In developing counter plans and socialist pledges for 1981 it is important to make full use of the experience of leading collectives. A lot can be learned from the Odessa transportation workers, who initiated a comprehensive socialist competition among the workers of their junction. A significant savings can be obtained by using the interconnected, continuous plan-schedules, which the Leningrad transportation workers developed and put into operation for the first time. Good results were obtained from the cooperation of the collectives of the transportation shops of several large enterprises in Chelyabinsk Oblast and the railroad workers of the Southern Ural Railroad. The practice of using heavy trains on the Moscow Railroad also brought good results. The CPSU Central Committee highly rated these initiatives and recommended that they be broadly disseminated.

To provide for the growing amounts of shipments it is necessary to raise the level of use and reliability of work of transport equipment. We are speaking primarily about the more productive and efficient use of locomotives, railcars, ships, aircraft and automobiles and creating the conditions to realize greater speeds. We are also speaking about an allaround reduction in idle time for loading and equipment operations. A high degree of reliability for the means of transportation is the pledge of consistent, smooth work of the shipping conveyor. Its achievement will lead to increased traffic safety.

One cannot overestimate the role that must be played by the container system in improving the transportation service to the national economy. An important role is also played by expanding the use of the packeting method of shipments in connection with the comprehensive mechanization of loading and unloading work and the automation of management. This, in essence, is a basic change in the organization of transportation service to enterprises, which promises a enormous economic savings.

The outlined program for the development and improvement of all means of transportation must create the conditions for successfully solving the basic task set before the transportation workers by the Party: to ensure the complete satisfaction of the needs of the national economy and the population for shipments on a timely basis and to raise the quality and efficiency of the operation of the transportation system of the Soviet Union.

In the Eleventh Five-Year Plan the communications workers must solve important tasks for providing the national economy and population with modern means of communications, television and radio broadcasting and to raise the reliability of their operation. The Draft of the Basic Trends calls for an increase in the distance covered by long distance channels of 1.8-fold. The number of telephones will increase 1.3-fold. The number of telephones available to the population will increase 1.4-fold.

The Draft calls for the continuation of the formation of the unified national automated communications system /YeASSS/ based on the latest systems for transmitting information. The creation of such a system will undoubtedly be of great importance for the extensive use of automated control systems by all sectors of the national economy. The maintenance of the means of communication of the population will be improved beyond measure. Color television will be further developed. The use of photofacsimile will mean that national newspapers can be read on the same day by residents throughout the USSR.

The rapid development of transportation and communications will create good conditions for the further, certain development of the entire Soviet economy and the steady rise of the material and cultural well-being of the Soviet people.

Facts and Figures

Freight Turnover of all Forms of Common Use Transportation
(in billions of ton-kilometers) in 1979

Railroad transport	- 3,349.3
Pipelines	- 1,140.7
Sea transport	- 851.1
Automotive transport	407.9
River transport	- 232.7
Air transport	- 2.9
Total	<hr/> 5,984.6 <hr/>

As can be seen in the above diagram, more than one half of domestic freight turnover is handled by the railroads. The operational length of common-use railroads at the start of 1980 reached 141,100 kilometers, of which 42,400 kilometers are electrified.

In 1981 760 kilometers of new lines and 860 kilometers of secondary tracks are to be put into operation and 1,000 kilometers of lines are to be electrified for the railroads. More than 2,000 kilometers are to be equipped with automatic braking systems and dispatch centralization.

The growing use of automobiles in the national economy requires the constant expansion and improvement of highways. By the beginning of 1980 there were 770,000 kilometers of paved highways. The 1981 plan calls for the construction of 21,000 kilometers of new highways.

A large amount of work is being done on railroad sidings of industrial organizations and enterprises. By the beginning of 1980 there were 137,000 kilometers of sidings. Every year the sidings carry almost 11 billion tons of cargo and handle more than 80 percent of all rail-car loading and unloading.

The total length of air routes (excluding overlapping sectors) by the start of 1980 amounted to 957,000 kilometers. In 1979 the civil air fleet transported 2,834,000 tons of cargo and mail and 101.9 million passengers. Crop dusting was done on 94.3 million hectares in agriculture and the timber industry. The 1981 plan calls for an increase in air transport of passengers of 3.7 percent.

Passenger Turnover of All Forms of Common Use Transportation
(in billions of passenger-kilometers)

1970:	553
1975:	747
1980:	890

As can be seen in the above diagram, passenger turnover for all forms of common use transportation was 890 billion passenger-kilometers in 1980. In 1981 the total volume of passenger conveyance is to be increased by 2.7 percent.

By the beginning of 1980 the number of telephones in the overall telephone system was 22.3 million, of which 3.4 million telephones were being used in rural areas. In 1981 the capacity of telephone stations is to be increased by more than 6 percent.

In 1981 28.3 billion rubles - 8.7 percent more than in 1980 - is to be spent on the further development of transportation and communications. Of this amount 9.4 billion rubles are to be used for the development of railroad transport.

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MISCELLANEOUS

PNEUMATIC TRANSPORTATION LINE LAUNCHED IN GEORGIAN SSR

Moscow PRAVDA in Russian 31 Dec 80 p 6

[Article by G. Lebanidze, Georgian SSR: "The Lilo-2 Has Been Launched"]

[Text] As PRAVDA has already reported, the Georgian SSR is introducing a new kind of shipping: pneumatic transportation. A few years ago the experimental Lilo-1 line, several kilometers in length, was launched there.

Inert materials were delivered from the quarry to the concrete plant by pipeline. Specialists were convinced that pneumatic transportation is very economical and convenient. There are essentially no barriers it cannot overcome. It goes through the body of mountains, crosses ravines, and dives under busy roads, rivers, and main urban transportation routes.

And now, near the little town of Shulaveri, the ceremonial launching of the second phase of the new line, the Lilo-2, has been held. The new line is 17.5 kilometers long. In one trip a train carries 40 tons of crushed rock. Large-diameter pipes have been set underground. Eight container-cars travel through them under a pressure of just 0.06 atmospheres. The cars go 40 kilometers an hour.

We watched as cars pulled up to the dosing bunkers, filled with crushed rock. The cars were filled in a matter of seconds and soon disappeared into the pipeline. The destination is the reinforced concrete articles plant in Marneuli. The Lilo-2 will make it possible to ship 225,000 tons of freight a year. When its second phase is launched the annual shipping volume will be 2 million tons. The second phase is 40 kilometers long.

The plan was written by the collective of the Transprogress Special Design Bureau and the Gruzgiprovodkhoz [Georgian SSR State Planning Institute for Water Management Planning]. The pipeline was built by the Pnevмотransпорт [Pneumatic Transportation] Administration of the Georgian SSR Ministry of Land Improvement and Water Management. Many plants throughout the country participated in building the Lilo-2.

Scientists and specialists are working on using pneumatic transportation to remove domestic waste, which will improve urban sanitation. Plans are being outlined to use container pipelines to haul ore from mines to concentrating factories and to take the concentrate from there to its users.

MISCELLANEOUS

UST'-KUT, TRANSPORTATION-INDUSTRIAL CENTER IN NORTHERN SIBERIA, DEVELOPING

Moscow PRAVDA in Russian 19 Nov 80 p 2

[Article by V. Yermolayev and L. Shabalin, Ust'-Kut, Irkutskaya Oblast': "On the Lena River"]

[Excerpts] The birth of the city's fifty-thousandth inhabitant was recently recorded. It is significant that he was born to the family of a BAM [Baikal Amur Mainline] engineer. It is the laying of this historic railroad that has caused Ust'-Kut to begin growing rapidly. In the last six years the population of the rayon has increased nearly 20,000.

Ust'-Kut is rightly called the "gate to the Far North." Trains now depart from here for Baikal. Passenger traffic has begun to Kunerma, the last station on the BAM in Irkutskaya Oblast. Food, raw materials, and various industrial goods -- from sewing needles to powerful gas turbines -- are shipped from the port of Osetrovo to the Yakut ASSR and northern Irkutskaya Oblast. Urgently needed articles for geologists, construction workers, and diamond and gold miners are flown to remote areas by plane.

The once-tranquil little city is now an enormous construction site. The Lena rail junction is being constructed. The airport is undergoing expansion and will soon be able to land almost every type of aircraft. The buildings of the Osetrovo repair and operations base of the fleet of the Lena Unified Steamship Line are rising on the right bank of the river. A bakery and a meat combine will soon be launched in operation. The dairy products plant is being reconstructed to produce enough products for the inhabitants of the city and the BAM settlements.

There are too many changes to count. Major economic and social transformations are being carried out. Six million rubles were invested in the economy of the rayon in the year. The port of Osetrovo is very important. The document "Basic Directions of Development of the USSR National Economy in 1976-1980" states: "Complete reconstruction of the port of Osetrovo." The job is practically done; only a few hundred thousand rubles remain to be incorporated. Reconstruction of the port has made it possible to double shipping to the North.

Ust'-Kut is changing before our eyes. Factory buildings stand today where vacant lots stood yesterday. An attractive housing development has been built where the temporary shacks were. The sponsoring republics, krays, and oblasts are giving a great deal of help in building the city.

Hundreds of projects are under construction. The first phase of the city automatic telephone exchange is in operation. A modern film center is being set up for the northern part of the oblast.

These gratifying changes in this harsh land do not, of course, come easily. Many problems arise. The city hopes to solve some of them during work on the BAM program and the reconstruction and expansion of the port of Osetrovo, the shipyard, and the enterprises of the Lenales [Lena Tiaber] Association.

"Our city is the center of the future Upper Lena territorial production complex. It is especially hard to shape it up in the initial stage," says I. Panchukov, first secretary of the Ust'-Kut city committee of the party. "It isn't easy to place the large detachments of workers; our construction base is underdeveloped. We only have a small brick plant and a shop that makes reinforced concrete elements. The appropriate ministries and departments should increase their capacities for production of reinforced concrete, bricks, fittings, and cabinetwork immediately."

The Lena rail center is growing slowly at present. The BAM Construction Association is in no hurry with it, but dock workers in Osetrovo desperately need a second station, the Port Station.

Dredging the river bottom and cutting timber have lowered the level of the Upper Lena significantly. In a hot summer the stream of ships departing the port of Osetrovo thins notably. A hydro engineering complex and reservoir must be built above Ust'-Kut to maintain the necessary depths throughout the navigation season. The Leningrad division of Gidroyekt [All-Union Planning, Surveying and Scientific Research Institute imeni S. Ya. Zhuk] is preparing technical-economic substantiation for construction of the hydro engineering complex. Its purpose will be to regulate the flow of the river during the summer and fall in the shallow segment from Osetrovo to Kirensk. Surveying has been completed. Still, the fate of the plan should be decided more quickly.

A new industrial and transportation center is being built in the northern part of Irkutskaya Oblast, in the tradition of Bratsk, Zheleznogorsk-Ilimskiy, and Ust'-Ilimskiy. The city of Ust'-Kut is blossoming.

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CSO: 1829

AMMONIA PIPELINE FROM TOL'YATTI TO ODESSA COMPLETED

Moscow PRAVDA in Russian 26 Nov 80 p 1

[Article by B. L'vov, Tol'yatti, Kuybyshevskaya Oblast: "From Tol'yatti to Odessa"]

[Text] The construction workers of the Ministry of Construction of Petroleum and Gas Industry Enterprises have carried out their pre-Congress obligations and successfully completed work on the northern 1,600-kilometer segment of the world's largest ammonia pipeline, running from Tol'yatti to Gorlovka and then Odessa. The pipeline, which starts on the banks of the Volga, has been connected to the 800-kilometer segment already operating from Gorlovka to Odessa, thus reaching the Grigor'yevsk estuary on the Black Sea.

The total length of the line is thus almost 2,500 kilometers. In a short time liquid ammonia produced in Tol'yatti will arrive at its destination, the pumping docks where mighty tankers are moored to receive the valuable chemical product.

The winners of the competition were given the honor of welding the final connections, applying the last meters of insulation covering, setting the pipe solidly into the trench, and doing the electrical installation jobs that complete the project. Here are the names of the honored workers: welding brigade leaders N. Malinin of the Mosgasprovodstroy [Moscow Gas Pipeline Construction Trust] and A. Milovanov of Ryazan'truboprovodstroy [Ryazan' Pipeline Construction Trust]; A. Shcherbakov, leader of a brigade of electrical installers of Glavneftegaz elektropetsstroy [Main Administration of Special Electrical Work in Construction of Petroleum and Gas Industry Enterprises]; V. Zenkin, chief of a mechanized column of Glavtruboprovodstroy [Main Administration of Pipeline Construction]; and, N. Grinev, leader of a crew of excavator operators from Kuybyshevtruboprovodstroy [Kuybyshev Pipeline Construction Trust].

This list could be expanded. Hundreds of construction workers labored heroically. The highest praise of their work was seen when the results of start-up and guarantee testing came in: the pipeline system demonstrated high reliability.

Construction of the ammonia pipeline is a new advance in domestic pipeline building. It is not just a question of the great length of the line. Many technical and technological problems were solved in new ways during the work. The line ran through the densely populated regions of the Volga, the Donets Basin, and the Dnepr and crossed hundred of natural and manmade barriers, including such major rivers as the Volga, Don, and Dnepr.

Construction workers were especially concerned about heightened safety precautions and measures for the transportation of such an aggressive substance as ammonia. In the most difficult and important sectors the pipe was encased in a strong jacket-cartridge which was pumped full of nitrogen in advance. If the slightest amount of ammonia leaks (which is practically impossible) it will immediately interact with the nitrogen and form a volatile gas. No contamination of the environment will occur.

Trouble-free operation, reliability, and unconditional preservation of the ecological balance are insured by the automated control system, remote control units, and computers designed to monitor the work of the ammonia pipeline.

The line has one other purpose. Along it are 30 distribution stations that will feed fertilizer to the fields of the kolkhozes and sovkhozes of 17 oblasts of Russia and the Ukraine. Each year they will receive 250,000 tons of liquid ammonia, which is the equivalent of delivering 1 million tons of nitrogen fertilizer (in standard commercial units).

11,176

CSO: 1829

SHURTAN GAS PIPELINE IN CENTRAL ASIAN GOES ON LINE

Moscow IZVESTIYA in Russian 18 Nov 80 p 3

[Article by G. Dimov, Tashkent: "The Illuminated Steppe"]

[Text] A torch in honor of the latest victory of the gas pipeline builders has been lit near the city of Shirin, in the southeastern part of the Golodnaya Steppe. Gas from the Shurtan deposit in the Karshinskaya Steppe has arrived here, at the Syrdar'inskaya GRES [State Regional Power Plant], the leader of the Central Asian power industry.

The Karshinskaya Steppe is called the "little sister" of the Golodnaya. Now this "little sister," where the second largest gas fields in Central Asia have been discovered, is showing its gratitude.

Our IZVESTIYA correspondent asked R. Rakhimov, manager of the Sredazneftegazstroy [Central Asian Petroleum and Gas Construction] Trust to tell about the country's new pipeline.

"In addition to our trust," he said, "the Bukhara gazpromstroy [Bukhara Gas Industry Construction] Trust, which is famous for laying the pipeline and building up the fields in the Gazli region, worked on construction of the pipeline from Shurtan to Syrdar'ya." The Bukhara trust did the first 150 kilometers and we did the rest. Thus, there was a kind of relay among the workers.

"In recent years our collective has laid gas pipelines across the barchans of the Karakumy and the takyr of the Ustyurt, the four lines of the famous Central Asia-Central Zone line, in the tundra, and just recently through the Salymskiye marshes north of Tobol'sk.

"The Shurtan-Syrdar'ya line is modest by comparison. But there were problems here too. Most of the line passed through cotton and grain fields and every single hectare of arable land had to be turned back to the farmers on time. Another problem was the more than 60 kilometers of pipeline that had to go through the steep mountains on the right of the famous Tamerlane Gates."

It took just 10 months to build the 403-kilometer line.

As these lines were being sent a report arrived from the Syrdar'inskaya GRES: final preparatory work had been completed for launching the ninth 300-megawatt generating unit. It will start producing electricity within days. They plan to launch it by the opening of the 26th party congress. Then the Syrdar'inskaya GRES will reach its full projected capacity of 3 million kilowatts.

MISCELLANEOUS

BRIEFS

EASTERN GAS PIPELINE--The drivers of the vehicle transportation office of Vostokonefteprovodstroy [Eastern Petroleum Pipeline Construction Trust], who are working on construction of the gas pipeline from Punga through Ukhta to Gryazovets, are successfully handling their plan assignments and even over-fulfilling them. Neither harsh winter cold nor spring mud disrupted the rigorous construction schedule. Leading drivers A. Ganeyev, V. Muravlev, V. Klesov, S. Metal'nikov, and others are surpassing their weekly quotas by 150-160 percent; the average daily travel of their trucks is 260 kilometers. This is being done under the conditions of northern Tyumenskaya Oblast where one finds swamps or permafrost at every step. Moreover, the drivers of the trust have not had a single accident or vehicle mishap in the entire period of the line's existence. Their successes are the result of hard work done by the appropriate services to prevent problems. Among the many steps that have been taken are special instruction sessions on how to drive in the North, driver meetings, propaganda for the best techniques and best organization of labor, and publication of monthly bulletins called "Traffic Safety" and "Be Careful of People." [Text] [Moscow ZA RULEM in Russian No 10, Oct 80, p 8] 11176

MOSCOW STREETCARS IMPROVED--The first modernized streetcars have appeared on Moscow streets. Outwardly they look just like the others, but the associates of VNII [All-Union Scientific Research Institute] of Railroad Car Building and specialists at the Krasnopresnenskiy Depot have protected the accelerator of the streetcars with an improved control circuit. It is a simple device, but very beneficial. It protects 99 contacts of the accelerator against scorching and insures continuous operation of the cars. [Text] [Moscow MOSKOVSKAYA PRAVDA in Russian 18 Jan 81 p 3] 11176

MOSCOW TRANSPORTATION GAINS--Considerable work was done to improve transportation services in the capital during the 10th Five-Year Plan. The material-technical base of urban passenger transportation was built up intensively. During the five years this system received 280 streetcars, 765 trolleys, 6,855 buses, 23,431 standard taxicabs, and 998 routed taxicabs. Two new subway ("Metro") lines were put into operation: from VDNKh [Exhibition of the Achievements of the National Economy] Station to Medvedkovo Station, a distance of 8.4 kilometers, and from Taganskaya (Marksistskaya) Station to Novogireyevo Station, a distance of 12.3 kilometers. Two new stations were opened, Gor'kovskaya and Shabolovskaya. [Text] [Moscow MOSKOVSKAYA PRAVDA in Russian 6 Jan 81 p 2] 11176

NEW MOSCOW METRO STATION--On the eve of the 63rd anniversary of Great October the subway (Metro) builders of the capital gave Muscovites a holiday gift: the Shabolovskaya Station began handling passengers almost two months ahead of schedule. This new underground palace was built by the subway construction workers of construction-installation administrations Nos 1 and 4 and the administration of special projects. The station is located on the Kaluga-Riga line between Oktyabr'skaya and Leninskiy Prospekt stations. Some time ago, in the early 1960's when this segment was under construction, a place was left here for the future station. Now its day has come. The underground hall of the new palace has an elegant and festive look. The columns faced in white marble and the gleaming granite of the floor are pleasing to the eye. The State Commission accepted the Shabolovskaya Station and gave it an "outstanding" evaluation. The new Metro station is the 115th underground palace of the Moscow Metro. [Text] [Moscow KRASNAYA ZVEZDA in Russian 6 Nov 80 p 4] 11176

NORTHERN LUBRICATING OILS--Special lubricating oils with solidification temperatures of minus 40-60 degrees are needed to insure normal operation of machines and equipment in the northern regions. Producing them involves substantial difficulties. To reduce the solidification temperature of oils even 10 degrees requires a radical change in production technology. This is the result of the formation of undesirable by-products, an insufficiency of oil fractions, low oil output, and other factors. Scientists at the Institute of Petrochemical Processes of the Academy of Sciences Azerbaijan SSR have developed a technique of producing synthetic oils which eliminates the major problems. The new oils have a high percentage of product output and solidification temperatures down to minus 48-54 degrees C. [Text] [Baku VYSHKA in Russian 7 Jan 81 p 2] 11176

CENTRAL ASIAN GAS PIPELINE--One of the largest gas pipelines in Central Asia, from Shurtan to the Syrdar'inskaya State Regional Power Plant, went on line before the holiday. In a short time the construction workers of the Ministry of Construction of Petroleum and Gas Industry Enterprises covered the difficult route across the Kyzylkumy desert and the sun-baked Karshinskaya steppe. By doing so they fulfilled one of the basic points of the pre-Congress obligations. [Text] [Moscow IZVESTIYA in Russian 8 Nov 80 p 2] 11176

ANTARCTIC SUPPLY OPERATIONS--The polar inhabitants warmly greeted their colleagues, who had performed an important freight transportation operation on the sixth continent. The tractor and sled train led by P. Smirnov delivered fuel, food, and expedition gear to the interior station at Vostok. The party covered roughly 1,500 kilometers over endless, chilling, icy wastes at air temperatures of -50 degrees. About half-way there, 870 kilometers from Mirnyy, the personnel of the train stopped over at Komsomol'skaya Station, which is located at an elevation of 3.5 kilometers. This is where deep drilling of the ice cap, whose thickness reaches 3,360 meters, will be undertaken and a program of glaciological and geophysical studies will be carried out. In the summer, when regular flights on the Mirnyy-Vostok route begin, Komsomol'skaya Station will be an intermediate base supplying aviation with meteorological information. In case of bad weather it will also be able to receive aircraft and refuel them. The motorship Bashkiriya has just arrived in the roadstead at Bellinsgauzen Station. This is the first ship

of the latest Soviet Antarctic expedition to arrive in Antarctica. The ship carried scientists, aviators, and construction workers who will carry out a large program of various jobs on the sixth continent. [Text] [Leningrad Leningradskaya Pravda in Russian 6 Dec 80 p 1] 11176

TYUMEN' CONSTRUCTION WORK--Tyumen'--The collective of Glavsibtruboprovodstroy [Main Administration of Pipeline Construction in Siberia] completed its five-year plan ahead of schedule. About 3 million rubles was incorporated in the construction of trunk oil and gas pipelines in Tyumenskaya Oblast and 5,585 kilometers of pipeline were put into operation. This was 50 kilometers more than planned. In the remote northern regions of the oblast construction has begun on new segments of the gas pipeline from Urengoy to Gryazovets. The collective has promised to complete them ahead of schedule, before the opening of the party congress. [Text] [Moscow Pravda in Russian 24 Nov 80 p 1] 11176

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